

**ATTACHMENT IV  
MCAP REPORT**



## MCAP SUMMARY REPORT

**TO:** Edwin Poalinelli, United States Environmental Protection Agency, Region 9,  
Remedial Project Manager

**FROM:** Alex Grubb, Weston Solutions, START Project Manager

**DATE:** December 9, 2016

**SUBJECT:** Mine Category Assessment Protocol (MCAP) Summary Report  
Navajo Nation, Apache County, Arizona  
TDD No.: 24-1512001 (0024/1302-T24-R9-15-12-0001)

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### **PROJECT BACKGROUND**

The U.S. Environmental Protection Agency (EPA) tasked Weston Solutions, Inc.'s (WESTON®) Superfund Technical Assessment and Response Team (START) to develop and implement the Mine Category Assessment Protocol (MCAP) in support of the Tronox settlement.

There are more than 500 abandoned uranium mine (AUM) claims spread across six distinct mining regions of the Navajo Nation. The MCAP project is concentrated on assessing 26 Tronox mines, as well as six potential Tronox mines, referred to as "other Tronox mines", located within the Northern Agency of the Navajo Nation. As shown on **Figure 1** the MCAP area of interest is divided between two ranges of the Northern Agency:

- The Lukachukai Mountains: The MCAP target sites are spread over approximately 30 square miles of high peaks and mesas, south of Cove, Arizona.
- The Northwest Carrizo Mountains: The MCAP target sites are spread over approximately 1.5 square miles near the Toh Atin Mesa anticline, southeast of Red Mesa, Arizona.

The MCAP effort has also been applied to any additional mines within a half mile radius of the Tronox mines, and other non-mine areas of concern as identified in MCAP Target List. Development of the MCAP is intended to establish a systematic method for assessing and surveying abandoned uranium mine sites and other potential contributions of uranium material areas to determine and evaluate removal factors impacting future site work, and to develop ranking system for prioritizing forthcoming Removal Site Evaluations. This systematic approach will include ranking each mine claim area based on a historical review as well as creating a Target List, made up of the Tronox mine sites and other nearby mines sites.

## MCAP TARGET LIST

The initial phase of developing the MCAP process was to determine the list of target sites to be assessed. The MCAP effort has also been applied to any additional mines and non-mine areas of concern within a half-mile radius of the Tronox mines, where mine waste and contamination is likely to have comeled or have potentially been impacted by the operations at the Tronox mines. As shown on **Figure 2**, **Figure 3**, and **Table 1**, the following targets were identified:

*Tronox AUMs*, including

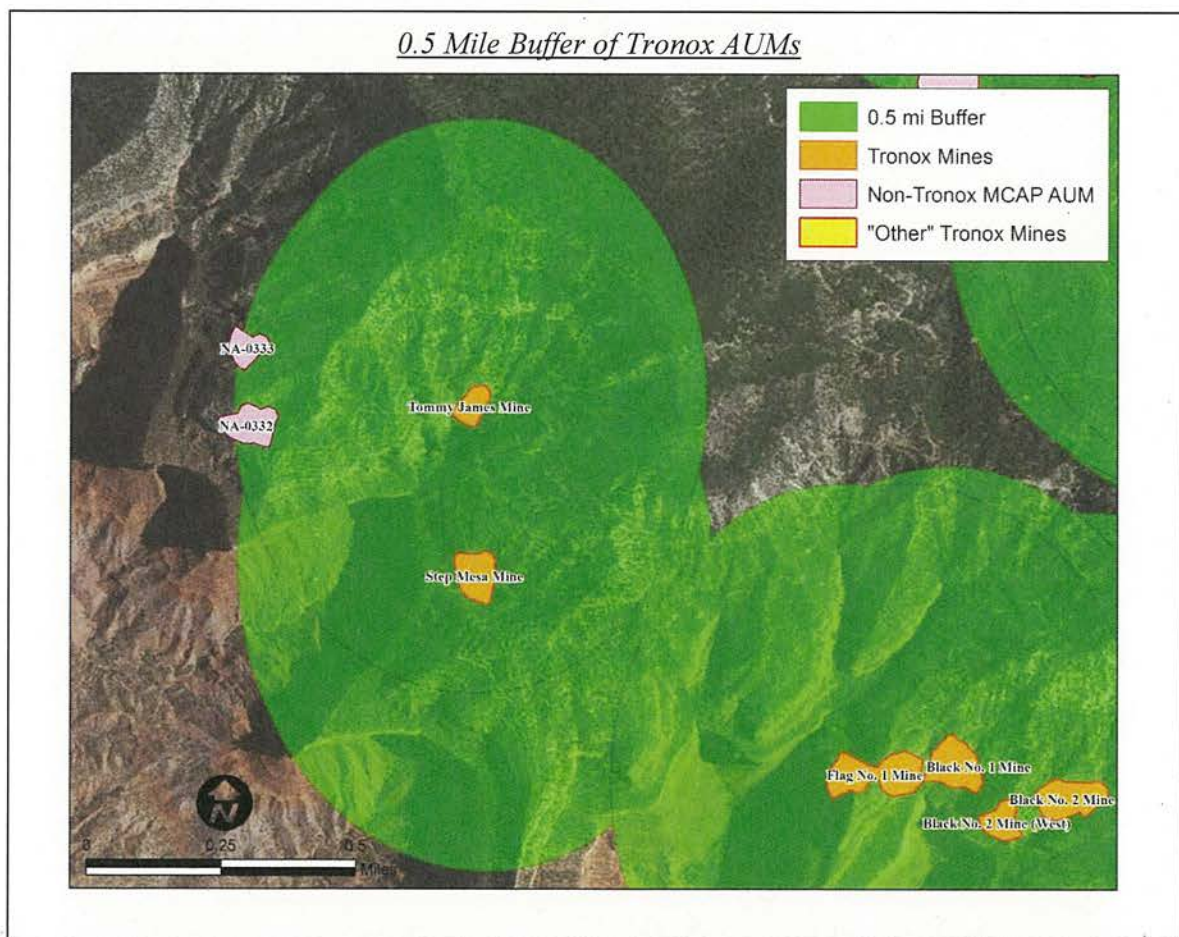
- 26 AUMs in the Lukachukai Mountains comprised of 33 individual mining sites
- 1 AUM in the Northwest Carrizo Mountains

*"Other" Tronox AUMs*, including:

- 5 AUMs in the Lukachukai Mountains
- 1 AUM in the Northwest Carrizo Mountains

*Non-Tronox AUMs*:

- 20 AUMs in the Lukachukai Mountains comprised of 21 individual mining sites





### *Non-Mine Target Areas:*

Non-AUM target sites included locations determined by an analysis of the 2014-2015 aerial radiological survey conducted by EPA's Airborne Spectral Photometric Environmental Collection Technology (ASPECT) program. Data anomalies and elevated outliers revealed during the analysis of the ASPECT gamma spectrometry results within a half-mile radius from a Tronox AUM were evaluated. A summary of the results are described in the draft ASPECT Survey Report, included as **Attachment B-1**.

A review of historical documentation and historical aerial photographs was also conducted to identify areas of concern. The historical documents are included in **Appendix A** and **B**, and aerial photographs are included in **Appendix C**. These newly defined areas have been identified, provided a name and mapped. The non-AUM target sites include:

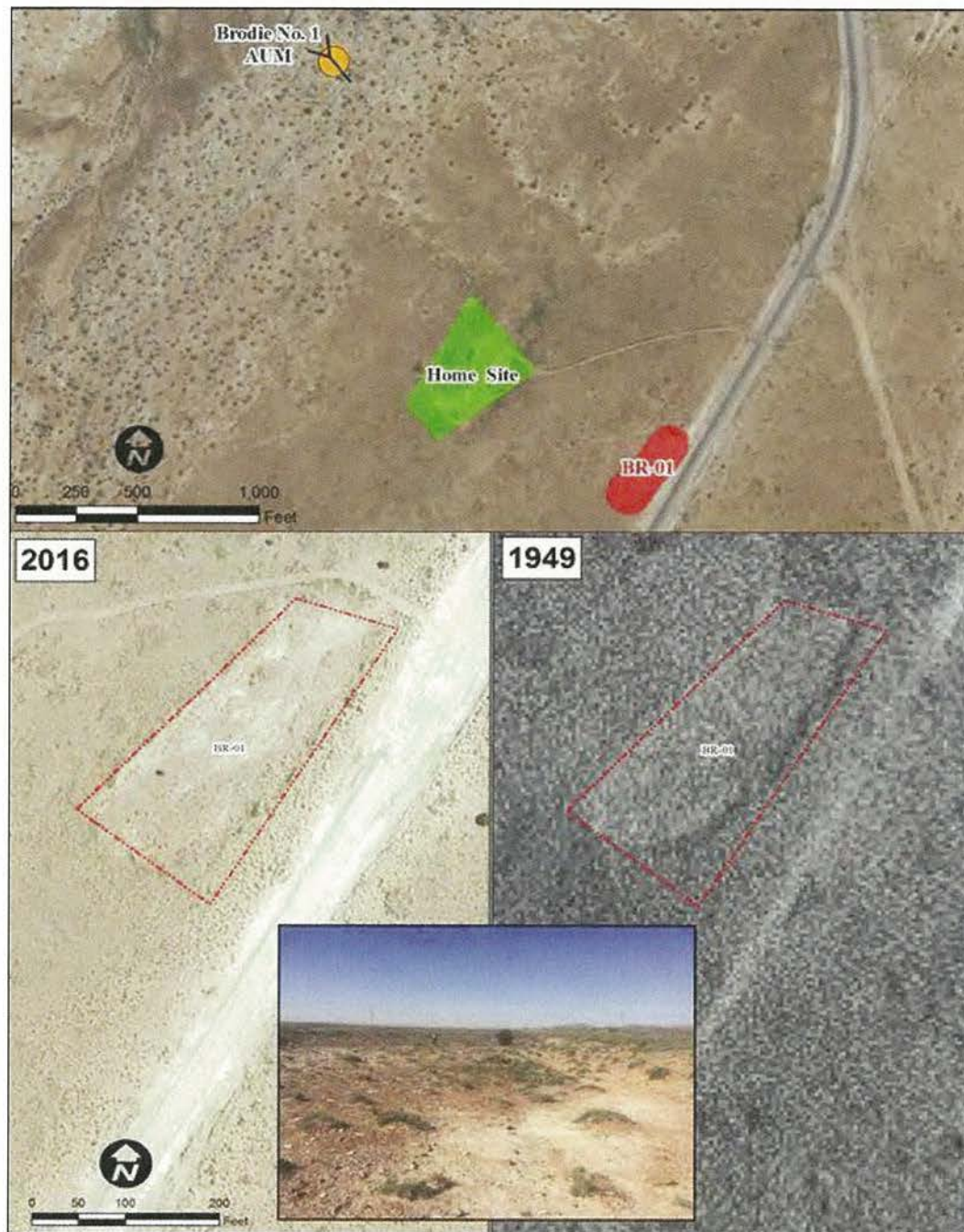
- 27 sites in the Lukachukai Mountains
- 8 sites in the Northwest Carrizo Mountains

*Non-AUM Targets (KE-01 & KE-02) as Determined by ASPECT eU Concentration Anomalies*





*Non-AUM Target (BR-01) as Determined by Historical Aerial Photographs*

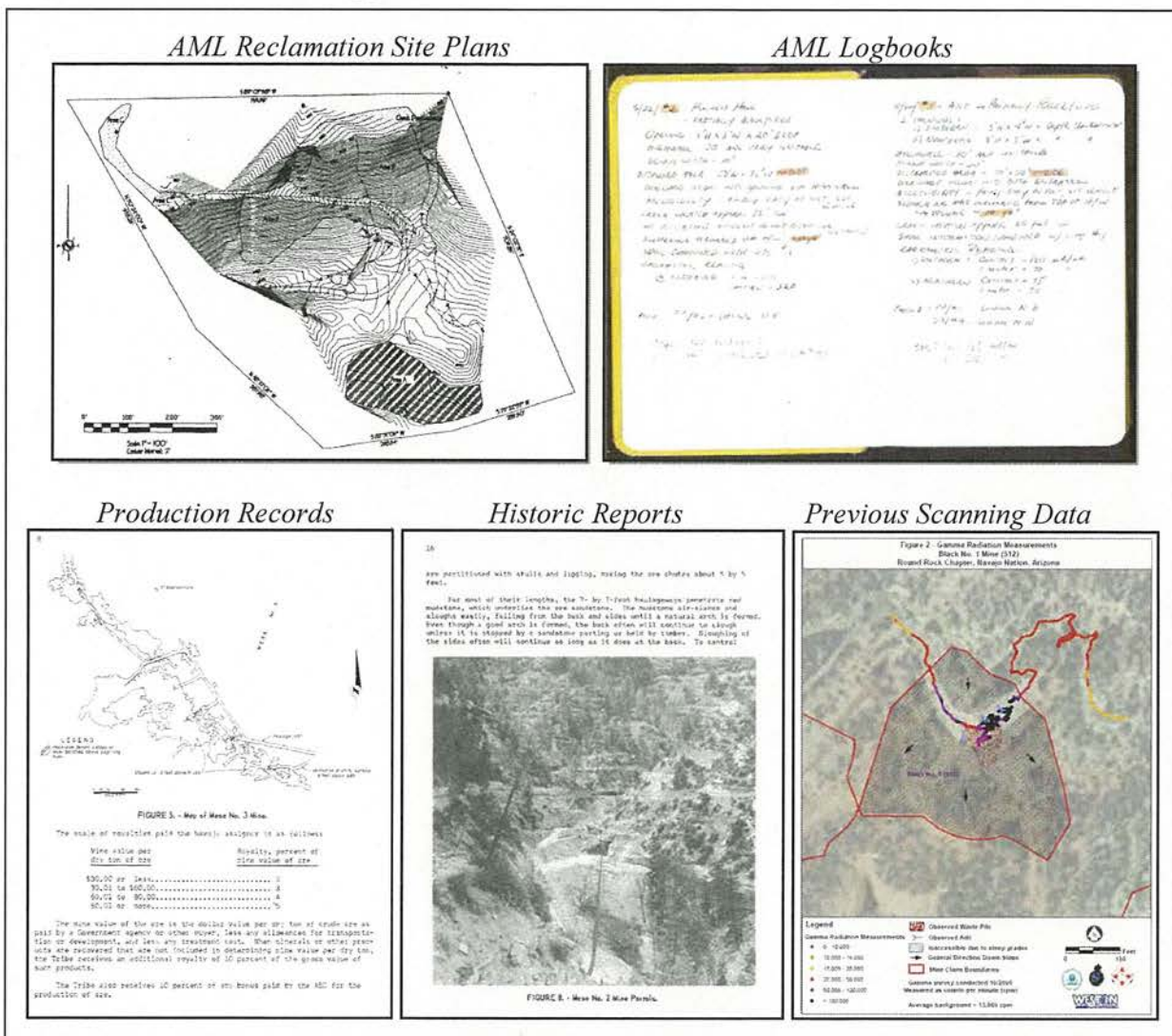


## HISTORICAL DOCUMENT REVIEW

Prior to the MCAP site reconnaissance field deployment, START assimilated historical site reports and documentation from as many sources as possible, in order to gather site specific knowledge.

- ASPECT Survey Data
- Previous Gamma Scanning Results and Reports, and Investigations
- Historic Aerial Imagery
- Navajo Abandoned Mine Lands Reclamation Program (AML) Logbooks and Sketches
- AML Reclamation technical specifications and site plans
- Existing GIS Data
- Historical Geological Reports

The document review was conducted using site-specific data, included in **Appendix A**, and regional data, included in **Appendix B**.



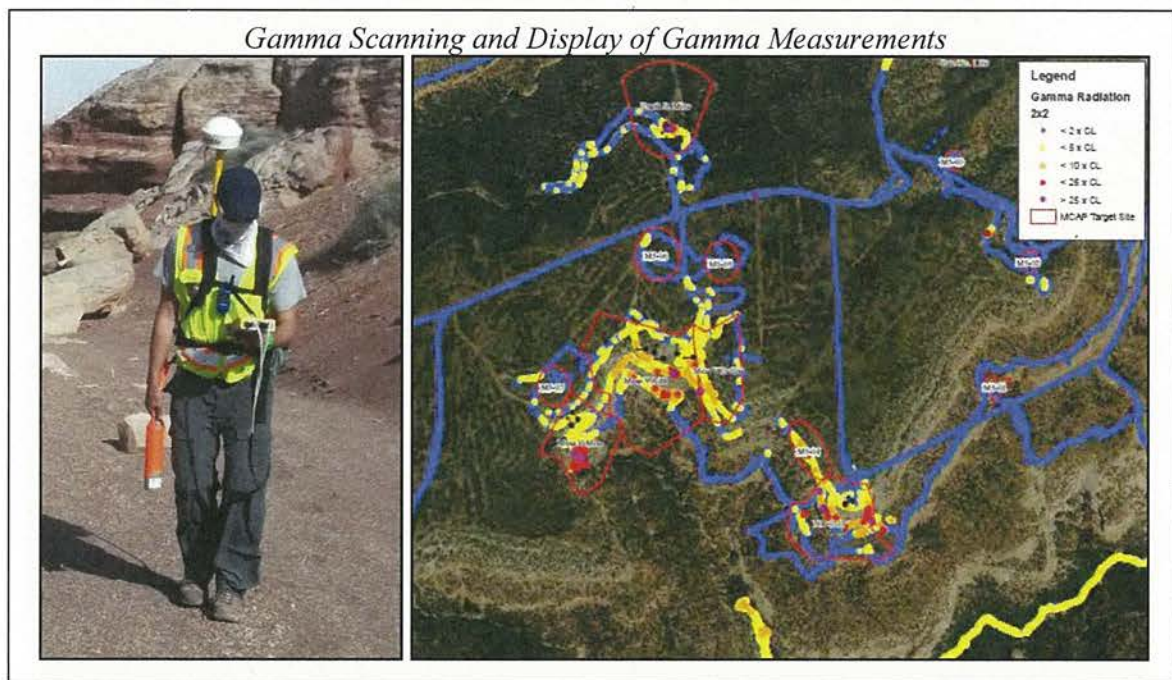


## MCAP RECONNAISSANCE

Two site reconnaissance field deployments were conducted from 18-27 April, 2016, and from 14-29 September, 2016. The site personnel included eight members of Weston's START team, as well as three representatives from USEPA Region IX. Prior to the field mobilization, START generated a table based field form to be deployed in the field, as well as an online map viewer loaded with previous site screening data.

### *Gamma Scanning:*

In order to document the radiological measurements throughout the deployment, and delineate the extent of the contaminated areas, the field teams used Ludlum 22-41 gamma rate meters with 2" x 2" sodium-iodide scintillation detectors, linked to a Trimble GeoXTs. The gamma radiation measurements are displayed in the removal site evaluation priority maps as indexed on **Table 5**.



### *Site Comparison Level*

During the MCAP site reconnaissance field effort, more than 200,000 gamma radiation measurements were collected and logged, ranging from approximately 4,000 counts per minute (cpm) to nearly 1,000,000 cpm. In order to determine the relative levels of gamma radiation measurements collected throughout the MCAP field deployment, a "Comparison Level" (CL) was selected based by calculating the median gamma level over the entire deployment. The CL of approximately 8,000 cpm was used during the implementation of the MCAP priority ranking scenario, used as an arbitrary evaluation criteria to prioritize and compare scanning results across the target sites. The gamma scanning maps are symbolized using multiples of two-times (2x), 5x, 10x, 25x, and greater than 25x the CL.



### *Site Access:*

Limited vehicle access as well as poor and changing road and weather conditions made accessing some target sites a challenge. The primary access roads leading to many of the sites were blocked by heavy snowpack, fallen trees, and rockslides. Specialized vehicles such as ATVs, UTVs, and Jeeps were necessary to gain closer access to many of the targets. Hiking paths leading to many of the more remote target sites have also washed out and eroded to the point of impassability. Attempts were made to access the Target Sites from alternative directions, but in total 7 AUM targets and 4 non-AUM target sites were not accessed during the field deployment, as described on **Table 2**. Information gathered during previous investigations was used to determine many of the priority factors assessed during MCAP.

*Access Challenges*



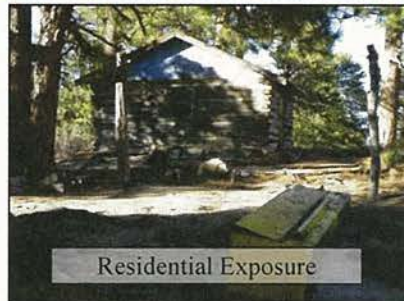
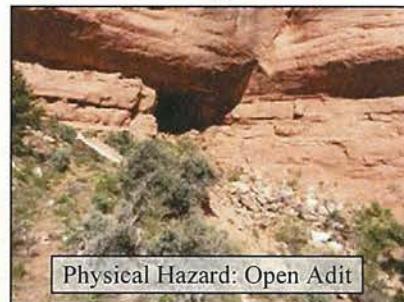
## **PRIORITY TARGET DETERMINATION**

Based on the findings of the MCAP site reconnaissance, START developed the Priority Ranking Scenario and identified evaluation factors in order to systematically select the priority Removal Site Evaluation (RSE) candidates. The MCAP ranking scenario differs from standard ranking systems, such as the EPA Hazardous Ranking System (HRS) largely as it is intended to differentiate similar sites within a relatively close proximity, where typical factors, such as precipitation or sensitive environments is expected to be consistent throughout the project area. More site-specific factors were included in the MCAP ranking scenario.

### *Target Site Priority Ranking Scenario*

The following factors were evaluated in order to determine the MCAP Priority sites:

1. Physical Hazards - Immediate physical hazards observed (i.e. accessible open shaft, un-reclaimed pits or other hazards attributable to mining or reclamation)
2. Surface Area of Impacted Material - Estimated surface area of significantly impacted soils/waste material, where gamma radiation was measured greater than 5-times the Comparison Level, or where likely impacted materials appeared to be present in areas inaccessible to ground scanning
3. Impacted Material Characteristics - Mobility potential of elevated/waste material to the surface water, groundwater, and air, based on structure/texture of affected media
4. Migration to Surface Water - Potential of contaminated material migrating off-site into a known surface water body
5. Residential Exposure - Proximity of inhabited or potentially inhabited structures/home compounds
6. Public Exposure - Potential for public to visit the site for non-residential purposes (such recreation, livestock herding, hunting, etc)
7. Accessibility - Ease of gaining access to the site
8. Reclamation - Condition of any historical mine reclamation



The specific numeric values associated with each priority factor is detailed on **Table 3**, and the scores and overall priority ranking and rationale for all of the MCAP target sites is shown on **Table 4**.



While each of the target sites was assigned individual priority ranking score values, it may be appropriate for future Removal Site Evaluations to encompass multiple target sites geographically clustered in close proximity. The targets determined in need of further evaluation have been grouped into 17 “Removal Site Evaluation Priority Groups”, as shown on **Figures 7 and 8**. The RSE groups were ranked into four categories, based on the highest individual target site value within each group. Evaluation recommendations are based on the RSE groups, rather than individual Target Sites. The RSE groups and associated target sites are listed on **Table 5**, and shown on the figures indexed on **Table 5**.

#### *Priority Removal Site Evaluation Groups*

Five of the 17 Assessment Areas were determined to achieve the maximum priority ranking, these areas include the following:

##### **M5 South** – Figures 19A, 19B and 19C show the proposed M5 South RSE Group

- An un-reclaimed open adit was observed at AUM 103, which poses a potential and significant physical hazard. More than a mile of underground mine workings were once operational at the site, and it is current extent of the underground chambers is unknown. Cattle were observed entering the portal, so it appears the underground tunnel networks is still at least partially intact
- Waste below the adit, as well as throughout other Mesa V area AUMs, was characterized by fine grain soils, which are likely to be highly mobile.
- Observed contamination has been documented in the surface water pathway drainages downstream from Mesa V



##### **M2 South** – Figures 13A, 13B and 13C show the proposed M2 South RSE Group

- Mesa II Mines 1 & 2 P-21 was the most productive mine in the Lukachukai Mountains, producing nearly five times the volume of the second largest operation
- Large quantities of fine grained and highly mobile contaminated material is found throughout the area
- Reclamation performed at the site has become highly eroded and compromised
- Water and sediment samples collected from a spring originating within the waste area were found to contain the highest levels of contamination in the Lukachukai Mountains.





**M1 North** – Figures 10A, 10B and 10C show the proposed M1 North RSE Group

- Observed waste piles and mine debris has been documented in the stream and wetlands below the AUMs.
- Some waste below the former adits was characterized by fine grain soils, which are likely to be highly mobile
- A frequently travelled road bisects the Mesa I area



**Brodie** - Figures 24A, 24B and 24C show the proposed Brodie RSE Group

- An unknown and undocumented recessed pit area at BR-01 with elevated levels of gamma radiation was identified within a close proximity of an occupied residence. The pit area pre-dates the earliest obtained aerial imagery (1949), and its origin remains unclear.
- The AUM boundaries identified in AUM Atlas at Brodie No. 1 were located in the wrong the location, so the reclaimed adit area has yet to be properly assessed.
- Soil samples collected during the ASPECT Survey showed highly elevated levels of contamination present at the site



**M3**– Figures 14A, 14B and 14C show the proposed M3 RSE Group

- Water and sediment samples collected from a seep originating below the sealed adit were found to contain high levels of contamination
- An unoccupied structure is located on Mesa III, which is reportedly used as part of a sheep camp
- Fine grained and highly mobile contaminated material is found above the drainages leading offsite
- Elevated levels of gamma radiation have been documented continuously downstream



## **RECOMMENDATIONS**

Recommendations for the MCAP target Removal Site Evaluations and further characterization are largely impacted and attributable to the access limitations present throughout the project area. Ideally, Removal Site Evaluations should include surface characterization of 100% of the assessment areas, as well as subsurface investigations and volumetric calculations, however the within the context of the inhibiting geography, the following recommendations are contingent upon the actual site conditions:

- Completion of cultural resource and archaeological surveys at areas of potential disturbance
- Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas
- Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites
- Further site access route reconnaissance may be needed at selected areas
- Road improvement evaluations to determine removal alternatives
- Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas
- Detailed aerial site surveys may be warranted to estimate waste volumes
- Underground surveys of open and exposed adits
- Surface sampling of waste and cover material to confirm scanning data
- Subsurface sampling with limited access drilling equipment, at accessible locations
- Historic records and document review, including reclamation specifications and drawings
- Review of historical aerial imagery and land-use / land-cover analysis

Site-specific recommendations are included on **Table 5**, including the primary recommended task, which addresses the most significant objective for each priority RSE group.

## **TABLES**

- 1 MCAP Target List
- 2 MCAP Target Access
- 3 MCAP Priority Ranking Factors
- 4 MCAP Target Site Priority Ranking
- 5 MCAP Priority Assessment Areas and Recommendations

## **FIGURES**

- 1 Site Location - MCAP Target Areas
- 2 Lukachukai Targets
- 3 NW Carrizo Targets
- 4 Lukachukai Access Routes
- 5 Lukachukai Gamma Radiation Measurements
- 6 NW Carrizo Gamma Radiation Measurements
- 7 Lukachukai Priority Removal Site Evaluation Groups
- 8 NW Carrizo Priority Removal Site Evaluation Groups
- 9A Cove Removal Site Evaluation Group - Layout
- 9B Cove Removal Site Evaluation Group - Gamma Radiation
- 10A M1 North Removal Site Evaluation Group - Layout
- 10B M1 North Removal Site Evaluation Group - Gamma Radiation
- 10C M1 North Removal Site Evaluation Group - Waste Material
- 11A M1 South Removal Site Evaluation Group - Layout
- 11B M1 South Removal Site Evaluation Group - Gamma Radiation
- 11C M1 South Removal Site Evaluation Group - Waste Material
- 12A M2 North Removal Site Evaluation Group - Layout
- 12B M2 North Removal Site Evaluation Group - Gamma Radiation
- 12C M2 North Removal Site Evaluation Group - Waste Material
- 13A M2 South Removal Site Evaluation Group - Layout
- 13B M2 South Removal Site Evaluation Group - Gamma Radiation
- 13C M2 South Removal Site Evaluation Group - Waste Material
- 14A M3 Removal Site Evaluation Group - Layout
- 14B M3 Removal Site Evaluation Group - Gamma Radiation
- 14C M3 Removal Site Evaluation Group - Waste Material
- 15A M4 North Removal Site Evaluation Group - Layout
- 15B M4 North Removal Site Evaluation Group - Gamma Radiation
- 15C M4 North Removal Site Evaluation Group - Waste Material
- 16A M4 South Removal Site Evaluation Group - Layout
- 16B M4 South Removal Site Evaluation Group - Gamma Radiation
- 16C M4 South Removal Site Evaluation Group - Waste Material
- 17A M4 West Removal Site Evaluation Group - Layout
- 17B M4 West Removal Site Evaluation Group - Gamma Radiation
- 17C M4 West Removal Site Evaluation Group - Waste Material
- 18A M5 North Removal Site Evaluation Group - Layout



- 18B M5 North Removal Site Evaluation Group - Gamma Radiation
- 18C M5 North Removal Site Evaluation Group - Waste Material
- 19A M5 South Removal Site Evaluation Group - Layout
- 19B M5 South Removal Site Evaluation Group - Gamma Radiation
- 19C M5 South Removal Site Evaluation Group - Waste Material
- 20A M6 Removal Site Evaluation Group - Layout
- 20B M6 Removal Site Evaluation Group - Gamma Radiation
- 20C M6 Removal Site Evaluation Group - Waste Material
- 21A Knife Edge Mesa Removal Site Evaluation Group - Layout
- 21B Knife Edge Mesa Removal Site Evaluation Group - Gamma Radiation
- 21C Knife Edge Mesa Removal Site Evaluation Group - Waste Material
- 22A Flag Mesa Removal Site Evaluation Group - Layout
- 22B Flag Mesa Removal Site Evaluation Group - Gamma Radiation
- 22C Flag Mesa Removal Site Evaluation Group - Waste Material
- 23A Step Mesa Removal Site Evaluation Group - Layout
- 23B Step Mesa Removal Site Evaluation Group - Gamma Radiation
- 23C Step Mesa Removal Site Evaluation Group - Waste Material
- 24A Brodie Removal Site Evaluation Group - Layout
- 24B Brodie Removal Site Evaluation Group - Gamma Radiation
- 24C Brodie Removal Site Evaluation Group - Waste Material
- 25A Block K Removal Site Evaluation Group - Layout
- 25B Block K Removal Site Evaluation Group - Gamma Radiation

## **ATTACHMENTS**

### **Appendix A** - *Site Specific Documents*

The following site specific documents are included in Appendix A, and accessible through the attached MS Access MCAP Document Index Database:

- Photographic Logs
- NAMLRP Reclamation Logbooks
- NAMLRP Reclamation Contracts
- NAMLRP Reclamation Sketches
- NAMLRP Reclamation Maps
- NAMLRP Technical Specifications
- Weston Pre-CERCLIS Screening Reports
- Historic Geologic Reports
- Historic Production Reports
- Previous Investigation Reports
- Historic Mining Permits

### **Appendix B** – *Regional Historic Documents*

The following region-wide documents are included in Appendix B, and accessible through the attached MS Access MCAP Document Index Database:

- B-1 USEPA - ASPECT Navajo Nation Survey Report Summary Report, 2015
- B-2 ARIZONA BUREAU OF MINES – Radioactive Occurrences in Arizona, 1981
- B-3 ARIZONA GEOLOGIC SURVEY – Uranium Production in the Lukachukai Mountains, 1988
- B-4 ARIZONA GEOLOGIC SURVEY – Uranium Production in the Northern and Western Carrizo Mountains, 1985
- B-5 BUREAU OF MINES – Kerr McGee Uranium Mining in the Lukachukai Mountains, 1961

### **Appendix C** – *Data Package*

Digital data files are provided in the attached data package, including full resolution historical aerial photograph GeoTiffs, and ESRI ArcGIS Shapefiles.

Historic aerial photographs were acquired from the USGS Earth Resources Observation and Science Center (EROS), National Aerial Photography Program (NAPP), and the National High Altitude Photography Program (NHAP).

The following photographs were acquired and reviewed during the MCAP process:

| Range         | Date       | Scale   | Source    |
|---------------|------------|---------|-----------|
| Lukachukai NE | 11/13/1949 | 1:20000 | USGS-EROS |
| Lukachukai SE | 11/13/1949 | 1:20000 | USGS-EROS |
| Lukachukai NW | 11/13/1949 | 1:20000 | USGS-EROS |
| Lukachukai W  | 11/13/1949 | 1:20000 | USGS-EROS |
| Lukachukai E  | 11/13/1949 | 1:20000 | USGS-EROS |
| NW Carrizo BR | 11/13/1949 | 1:20000 | USGS-EROS |
| NW Carrizo BK | 11/13/1949 | 1:20000 | USGS-EROS |
| NW Carrizo    | 6/11/1950  | 1:47200 | USGS-EROS |
| Lukachukai    | 6/11/1950  | 1:47200 | USGS-EROS |
| Lukachukai S  | 10/8/1952  | 1:20000 | USGS-EROS |
| Lukachukai SE | 10/8/1952  | 1:20000 | USGS-EROS |
| Lukachukai SW | 10/27/1952 | 1:20000 | USGS-EROS |
| NW Carrizo    | 4/1/1953   | 1:54000 | USGS-EROS |
| Lukachukai NE | 4/1/1953   | 1:54000 | USGS-EROS |
| Lukachukai SE | 4/1/1953   | 1:54000 | USGS-EROS |
| Lukachukai N  | 9/20/1953  | 1:37400 | USGS-EROS |
| Lukachukai NE | 9/20/1953  | 1:37400 | USGS-EROS |
| Lukachukai SW | 9/20/1953  | 1:37400 | USGS-EROS |
| NW Carrizo    | 10/22/1955 | 1:60000 | USGS-EROS |
| Lukachukai NE | 9/17/1968  | 1:12000 | USGS-EROS |
| NW Carrizo BR | 6/25/1976  | 1:30000 | USGS-EROS |
| NW Carrizo BK | 6/25/1976  | 1:30000 | USGS-EROS |
| Lukachukai N  | 6/25/1976  | 1:30000 | USGS-EROS |
| Lukachukai S  | 6/25/1976  | 1:30000 | USGS-EROS |
| NW Carrizo BK | 4/3/1992   | 1:20000 | NAPP      |
| NW Carrizo BR | 4/6/1992   | 1:20000 | NAPP      |
| Lukachukai NE | 9/30/1992  | 1:20000 | NAPP      |
| Lukachukai SW | 9/30/1992  | 1:20000 | NAPP      |
| NW Carrizo BK | 10/14/1997 | 1:20000 | NAPP      |
| NW Carrizo BR | 10/14/1997 | 1:20000 | NAPP      |
| Lukachukai NE | 10/13/1997 | 1:20000 | NAPP      |
| Lukachukai SW | 10/13/1997 | 1:20000 | NAPP      |
| NW Carrizo    | 6/10/1981  | 1:58000 | NHAP      |
| NW Carrizo    | 6/13/1981  | 1:58000 | NHAP      |
| Lukachukai    | 6/10/1981  | 1:80000 | NHAP      |



The following GIS Shapefiles were utilized or developed during the MCAP process:

| <u>Shapefile</u>                          | <u>Source</u> |
|---|---------------|
| ASPECT Gamma Survey Zone 1                | EPA           |
| ASPECT Gamma Survey Zone 2                | EPA           |
| ASPECT Gamma Survey Zone 3                | EPA           |
| ASPECT Gamma Survey Zone 6                | EPA           |
| MCAP Target Sites                         | Weston        |
| MCAP AUMs                                 | AUM Atlas     |
| RSE Groups                                | Weston        |
| Tronox Buffers                            | Weston        |
| MCAP Gamma Scanning Data                  | Weston        |
| Cove Watershed Gamma Scanning Data        | Weston        |
| Pre-CERCLIS Screening Gamma Scanning Data | Weston        |
| MCAP Waste Material                       | Weston        |
| Mine Portals                              | AUM Atlas     |
| Site Access Routes                        | Weston        |
| Reclamation Boundaries                    | AUM Atlas     |
| Drainages                                 | AUM Atlas     |
| Lukachukai Mesas                          | Weston        |

**Table 1. MCAP Target List**

| <b>AUM / Target Site</b>                 | <b>Site ID</b> | <b>Target Justification</b> |
|--|----------------|-----------------------------|
| <i>Black No. 1 Mine</i>                  | 512            | Tronox Mine                 |
| <i>Black No. 2 Mine</i>                  | 205            | Tronox Mine                 |
| <i>Black No. 2 Mine (West)</i>           | 206            | Tronox Mine                 |
| <i>Block K</i>                           | 64             | Tronox Mine                 |
| <i>Flag No. 1 Mine</i>                   | 511            | Tronox Mine                 |
| <i>Frank Jr. Mine</i>                    | 421            | Tronox Mine                 |
| <i>Mesa I 1/2 Mine</i>                   | 419            | Tronox Mine                 |
| <i>Mesa I 1/4 Mine</i>                   | 423            | Tronox Mine                 |
| <i>Mesa I 3/4 Incline</i>                | 95             | Tronox Mine                 |
| <i>Mesa I 3/4, Mine No. 2, P150</i>      | 600            | Tronox Mine                 |
| <i>Mesa I, Mines 10 - 15</i>             | 654            | Tronox Mine                 |
|  | 93             | Tronox Mine                 |
|  | 655            | Tronox Mine                 |
|  | 94             | Tronox Mine                 |
|  | 656            | Tronox Mine                 |
|  | 657            | Tronox Mine                 |
| <i>Mesa II 1/2 Mine</i>                  | 603            | Tronox Mine                 |
| <i>Mesa II 1/2, Mine 4</i>               | 604            | Tronox Mine                 |
| <i>Mesa II, Mine 4</i>                   | 285            | Tronox Mine                 |
| <i>Mesa II, Mine No. 1 &amp; 2, P-21</i> | 601            | Tronox Mine                 |
| <i>Mesa II, Mine No. 1, P-150</i>        | 602            | Tronox Mine                 |
| <i>Mesa III Mine</i>                     | 605            | Tronox Mine                 |
| <i>Mesa IV 1/2 Mine and Simpson 181</i>  | 506            | Tronox Mine                 |
| <i>Mesa IV, Mine No. 1</i>               | 606            | Tronox Mine                 |
| <i>Mesa IV, Mine No. 2</i>               | 607            | Tronox Mine                 |
| <i>Mesa IV, Mine No. 3</i>               | 608            | Tronox Mine                 |
| <i>Mesa V Adit</i>                       | 609            | Tronox Mine                 |
| <i>Mesa V Incline</i>                    | 610            | Tronox Mine                 |
| <i>Mesa V Mine</i>                       | 103            | Tronox Mine                 |
|  | 508            | Tronox Mine                 |
| <i>Mesa VI Mine</i>                      | 611            | Tronox Mine                 |
| <i>Step Mesa Mine</i>                    | 204            | Tronox Mine                 |
| <i>Tommy James Mine</i>                  | 203            | Tronox Mine                 |
| <i>Brodie 1</i>                          | 191            | "Other" Tronox Mine         |
| <i>Henry Phillips Mine</i>               | 286            | "Other" Tronox Mine         |
| <i>Knife Edge Mesa Mine</i>              | 428            | "Other" Tronox Mine         |
| <i>Mesa I 1/2, West Mine</i>             | 288            | "Other" Tronox Mine         |
| <i>Mesa II Pit</i>                       | 287            | "Other" Tronox Mine         |
| <i>Mesa IV, West Mine</i>                | 101            | "Other" Tronox Mine         |
| <i>Cato No. 1 Pit</i>                    | 426            | 1/2 mile of Tronox Mine     |
| <i>Cato No. 2</i>                        | 104            | 1/2 mile of Tronox Mine     |
| <i>Cov000</i>                            | 425            | 1/2 mile of Tronox Mine     |
| <i>Cov068</i>                            | 420            | 1/2 mile of Tronox Mine     |
| <i>Cov087</i>                            | 507            | 1/2 mile of Tronox Mine     |
| <i>East Portal, Frank No. 1 Mine</i>     | 509            | 1/2 mile of Tronox Mine     |
| <i>Frank No. 2</i>                       | 510            | 1/2 mile of Tronox Mine     |
| <i>Mesa II 1/4 Mine</i>                  | 96             | 1/2 mile of Tronox Mine     |
| <i>Mesa III, Northwest Mine</i>          | 424            | 1/2 mile of Tronox Mine     |
| <i>Mesa III, West Mine</i>               | 417            | 1/2 mile of Tronox Mine     |
| <i>Mesa IV, East Side</i>                | 416            | 1/2 mile of Tronox Mine     |
| <i>NA-0313</i>                           | 660            | 1/2 mile of Tronox Mine     |
| <i>NA-0316</i>                           | 107            | 1/2 mile of Tronox Mine     |
| <i>NA-0318</i>                           | 99             | 1/2 mile of Tronox Mine     |
| <i>NA-0310</i>                           | 469            | 1/2 mile of Tronox Mine     |

**Table 1. MCAP Target List**

| <b>AUM / Target Site</b>       | <b>Site ID</b> | <b>Target Justification</b>                                 |
|--------------------------------|----------------|---|
| NA-0312                        | 612            | 1/2 mile of Tronox Mine                                     |
| NA-0332                        | 202            | 1/2 mile of Tronox Mine                                     |
| NA-0333                        | 201            | 1/2 mile of Tronox Mine                                     |
| NA-0343                        | 207            | 1/2 mile of Tronox Mine                                     |
| North Portal, Frank No. 1 Mine | 505            | 1/2 mile of Tronox Mine                                     |
| South Portal, Frank No. 1 Mine | 106            | 1/2 mile of Tronox Mine                                     |
| BK-01                          | N/A            | Adjacent to Home Compound, S of Block K AUM                 |
| BK-02                          | N/A            | Road N of Block K AUM                                       |
| BR-01                          | N/A            | Potential Pit Area adjacent to road, SE of Brodie No. 1 AUM |
| BR-02                          | N/A            | Adit Area, W of Brodie No. 1 AUM                            |
| BR-03                          | N/A            | Open area E of Brodie No. 1 AUM                             |
| BR-04                          | N/A            | Cliff Area, NE of Brodie AUM                                |
| BR-05                          | N/A            | Road, NE of AUM   |
| BR-06                          | N/A            | Clearing below cliff, NE of AUM                             |
| CT-01                          | N/A            | Road N of Cove Transfer Station                             |
| CT-02                          | N/A            | Road SW of Cove Transfer Station                            |
| CT-03                          | N/A            | Residential Area S of Cove Transfer Station                 |
| KE-01                          | N/A            | Slope E of ridge, north of AUMs                             |
| KE-02                          | N/A            | Slope W of ridge, north of AUMs                             |
| M1-01                          | N/A            | Clearing along trail  |
| M1-02                          | N/A            | Rocks N/W of Road   |
| M1-03                          | N/A            | Slope S of Road   |
| M1-04                          | N/A            | Waste in Drainage   |
| M1-05                          | N/A            | Waste in Drainage   |
| M1-06                          | N/A            | Waste in Drainage   |
| M1-07                          | N/A            | Below trail   |
| M1-08                          | N/A            | Drainage below trail  |
| M2-01                          | N/A            | Trail   |
| M4-01                          | N/A            | Cleared/Access Area Above AUMs                              |
| M4-02                          | N/A            | Road  |
| M4-03                          | N/A            | Slope W of AUMs/Road  |
| M4-04                          | N/A            | Cleared Area W of AUMs                                      |
| M5-01                          | N/A            | Possible Mine Area, Ravine E of Road                        |
| M5-02                          | N/A            | S Side of Road  |
| M5-03                          | N/A            | N Site of Road  |
| M5-04                          | N/A            | Area between NA-0138 & Mesa V Incline AUMs                  |
| M5-05                          | N/A            | Clearing between road and Mesa V Incline AUM                |
| M5-06                          | N/A            | Clearing between road and Mesa V Adit AUM                   |
| M5-07                          | N/A            | Clearing between road and Mesa V AUM                        |
| M5-08                          | N/A            | Slope below road  |
| M5-09                          | N/A            | Slope below trail   |



**Table 2. MCAP Target Site Access**

| Target Site                      | Site ID | Range      | Access Comments |
|----------------------------------|---------|------------|-----------------|
| <b>Targets Accessed</b>          |         |            |                 |
| Black No. 1 Mine                 | 512     | Lukachukai | Hiking Access   |
| Black No. 2 Mine                 | 205     | Lukachukai | Hiking Access   |
| Black No. 2 Mine (West)          | 206     | Lukachukai | Hiking Access   |
| Block K                          | 64      | NW Carrizo | Car Access      |
| Brodie 1                         | 191     | NW Carrizo | Car Access      |
| Cato No. 1 Pit                   | 426     | Lukachukai | Jeep Access     |
| Cato No. 2                       | 104     | Lukachukai | Hiking Access   |
| Cov000                           | 425     | Lukachukai | Jeep Access     |
| Cov068                           | 420     | Lukachukai | ATV Access      |
| Cov087                           | 507     | Lukachukai | Jeep Access     |
| East Portal, Frank No. 1 Mine    | 509     | Lukachukai | Jeep Access     |
| Flag No. 1 Mine                  | 511     | Lukachukai | Hiking Access   |
| Frank Jr. Mine                   | 421     | Lukachukai | Hiking Access   |
| Frank No. 2                      | 510     | Lukachukai | Jeep Access     |
| Knife Edge Mesa Mine             | 428     | Lukachukai | Hiking Access   |
| Mesa I 1/4 Mine                  | 423     | Lukachukai | Hiking Access   |
| Mesa I 3/4 Incline               | 95      | Lukachukai | Hiking Access   |
| Mesa I 3/4, Mine No. 2, P150     | 600     | Lukachukai | Hiking Access   |
| Mesa I Mine 10                   | 654     | Lukachukai | Jeep Access     |
| Mesa I Mine 11                   | 93      | Lukachukai | Jeep Access     |
| Mesa I Mine 12                   | 655     | Lukachukai | Jeep Access     |
| Mesa I Mine 13                   | 94      | Lukachukai | Jeep Access     |
| Mesa I Mine 14                   | 656     | Lukachukai | Jeep Access     |
| Mesa I Mine 15                   | 657     | Lukachukai | Jeep Access     |
| Mesa II 1/2 Mine                 | 603     | Lukachukai | ATV Access      |
| Mesa II 1/2, Mine 4              | 604     | Lukachukai | ATV Access      |
| Mesa II 1/4 Mine                 | 96      | Lukachukai | Jeep Access     |
| Mesa II Pit                      | 287     | Lukachukai | Jeep Access     |
| Mesa II, Mine 4                  | 285     | Lukachukai | Hiking Access   |
| Mesa II, Mine No. 1 & 2, P-21    | 601     | Lukachukai | ATV Access      |
| Mesa II, Mine No. 1, P-150       | 602     | Lukachukai | ATV Access      |
| Mesa III Mine                    | 605     | Lukachukai | ATV Access      |
| Mesa III, Northwest Mine         | 424     | Lukachukai | Jeep Access     |
| Mesa III, West Mine              | 417     | Lukachukai | Jeep Access     |
| Mesa IV 1/2 Mine and Simpson 181 | 506     | Lukachukai | Jeep Access     |
| Mesa IV, East Side               | 416     | Lukachukai | Jeep Access     |
| Mesa IV, Mine No. 1              | 606     | Lukachukai | Jeep Access     |
| Mesa IV, Mine No. 2              | 607     | Lukachukai | Jeep Access     |
| Mesa IV, Mine No. 3              | 608     | Lukachukai | Jeep Access     |
| Mesa IV, West Mine               | 101     | Lukachukai | Jeep Access     |
| Mesa V Adit                      | 609     | Lukachukai | Jeep Access     |
| Mesa V Incline                   | 610     | Lukachukai | Jeep Access     |
| Mesa V Mine                      | 103     | Lukachukai | Jeep Access     |
| Mesa V Mine                      | 508     | Lukachukai | Jeep Access     |
| Mesa VI Mine                     | 611     | Lukachukai | Hiking Access   |
| NA-0313                          | 660     | Lukachukai | ATV Access      |
| NA-0316                          | 107     | Lukachukai | Jeep Access     |
| NA-0318                          | 99      | Lukachukai | Jeep Access     |
| NA-0319                          | 612     | Lukachukai | Hiking Access   |
| NA-0319                          | 469     | Lukachukai | Hiking Access   |
| NA-0343                          | 207     | Lukachukai | Hiking Access   |
| North Portal, Frank No. 1 Mine   | 505     | Lukachukai | Jeep Access     |

**Table 2. MCAP Target Site Access**

| Target Site                    | Site ID | Range      | Access Comments  |
|--------------------------------|---------|------------|--|
| South Portal, Frank No. 1 Mine | 106     | Lukachukai | Jeep Access  |
| BK-01                          | N/A     | NW Carrizo | Car Access   |
| BK-02                          | N/A     | NW Carrizo | Car Access   |
| BR-01                          | N/A     | NW Carrizo | Car Access   |
| BR-02                          | N/A     | NW Carrizo | Jeep Access  |
| BR-03                          | N/A     | NW Carrizo | Jeep Access  |
| BR-04                          | N/A     | NW Carrizo | Jeep Access  |
| BR-05                          | N/A     | NW Carrizo | Car Access   |
| BR-06                          | N/A     | NW Carrizo | Jeep Access  |
| CT-01                          | N/A     | Lukachukai | Car Access   |
| CT-02                          | N/A     | Lukachukai | Car Access   |
| CT-03                          | N/A     | Lukachukai | Car Access   |
| KE-01                          | N/A     | Lukachukai | Hiking Access  |
| KE-02                          | N/A     | Lukachukai | Hiking Access  |
| M1-01                          | N/A     | Lukachukai | ATV Access   |
| M1-02                          | N/A     | Lukachukai | ATV Access   |
| M1-03                          | N/A     | Lukachukai | ATV Access   |
| M1-04                          | N/A     | Lukachukai | Hiking Access  |
| M2-01                          | N/A     | Lukachukai | Hiking Access  |
| M4-01                          | N/A     | Lukachukai | ATV Access   |
| M4-02                          | N/A     | Lukachukai | Jeep Access  |
| M4-03                          | N/A     | Lukachukai | ATV Access   |
| M4-04                          | N/A     | Lukachukai | ATV Access   |
| M5-01                          | N/A     | Lukachukai | ATV Access   |
| M5-02                          | N/A     | Lukachukai | Jeep Access  |
| M5-03                          | N/A     | Lukachukai | ATV Access   |
| M5-04                          | N/A     | Lukachukai | ATV Access   |
| M5-05                          | N/A     | Lukachukai | ATV Access   |
| M5-06                          | N/A     | Lukachukai | ATV Access   |
| M5-07                          | N/A     | Lukachukai | ATV Access   |
| M5-08                          | N/A     | Lukachukai | ATV Access   |
| M5-09                          | N/A     | Lukachukai | ATV Access   |
| <b>Targets Not Accessed</b>    |         |            |  |
| Henry Phillips Mine            | 286     | Lukachukai | Cliffs, vegetation preventing access   |
| Mesa I 1/2 Mine                | 419     | Lukachukai | Cliffs, vegetation preventing access   |
| Mesa I 1/2, West Mine          | 288     | Lukachukai | Cliffs, vegetation preventing access   |
| NA-0332                        | 202     | Lukachukai | Potential hiking access from north, ATV access blocked 2 miles north of site |
| NA-0333                        | 201     | Lukachukai | Potential hiking access from north, ATV access blocked 2 miles north of site |
| Step Mesa Mine                 | 204     | Lukachukai | Potential hiking access from north, ATV access blocked 2 miles north of site |
| Tommy James Mine               | 203     | Lukachukai | Potential hiking access from north, ATV access blocked 2 miles north of site |
| M1-05                          | N/A     | Lukachukai | Waterfalls preventing access   |
| M1-06                          | N/A     | Lukachukai | Waterfalls preventing access   |
| M1-07                          | N/A     | Lukachukai | Potential hiking access from south, cliffs and vegetation preventing access  |
| M1-08                          | N/A     | Lukachukai | Potential hiking access from south, cliffs and vegetation preventing access  |



**Table 3. MCAP Priority Ranking Scoring Scenario**

| Priority Factor                          | Description   | Scoring Scenario  |    |
|--|---|---|----|
| <b>Physical Hazards</b>                  | Immediate physical hazards observed (open shafts, un-reclaimed pits or adits, etc)  | Yes   | 10 |
|  |   | No  | 0  |
| <b>Surface Area of Impacted Material</b> | Estimated surface area of significantly impacted soils/waste material, where gamma radiation was measured greater than 5-times the Comparison Level, or where likely impacted materials appeared to be present in areas inaccessible to ground scanning | Greater than 2.0 acres                                      | 10 |
|  |   | 1.0 to 2.0 acres  | 8  |
|  |   | 0.5 to 1.0 acres  | 6  |
|  |   | Less than 0.5 acres   | 4  |
|  |   | None  | 2  |
| <b>Impacted Material Characteristics</b> | Mobility potential of elevated/waste material to the surface water, groundwater, and air, based on structure/texture of affected media  | High Mobility (fine) > 1 acre                               | 10 |
|  |   | High Mobility (fine) < 1 acre                               | 6  |
|  |   | Moderate Mobility (medium to large grained)                 | 4  |
|  |   | Low Mobility (large rocks)                                  | 2  |
|  |   | None  | 0  |
| <b>Migration to Surface Water</b>        | Potential of contaminated material migrating off-site into a known surface water body   | Documented onsite source                                    | 10 |
|  |   | Documented offsite waste                                    | 8  |
|  |   | Likely (mobile material or surface water within 200 ft)     | 6  |
|  |   | Potential (surface water within 0.25 mi)                    | 4  |
|  |   | Unlikely (based on distance/material)                       | 2  |
|  |   | None  | 0  |
| <b>Residential Exposure</b>              | Proximity of inhabited or potentially inhabited structures/home compounds   | Inhabited within 0.25 mi                                    | 10 |
|  |   | Inhabited within 0.5 mi                                     | 8  |
|  |   | Potential within 0.25 mi                                    | 6  |
|  |   | Inhabited within 1 mi; potential within 0.5 mi              | 4  |
|  |   | Potential within 1 mi                                       | 2  |
|  |   | None  | 0  |
| <b>Public Exposure</b>                   | Potential for public to visit the site for non-residential purposes (such recreation, livestock herding, hunting, etc)  | Known   | 10 |
|  |   | Likely  | 8  |
|  |   | Potential   | 5  |
|  |   | Unlikely  | 2  |
| <b>Accessibility</b>                     | Ease of gaining access to the site  | Well maintained road within 200 ft                          | 10 |
|  |   | 4WD/unmaintained road within 200 ft                         | 8  |
|  |   | Potenital ATV/speciality offroad vehicle path within 200 ft | 6  |
|  |   | Hiking trail within 1000 ft                                 | 4  |
|  |   | Hiking trail greater than 1000 ft                           | 2  |
| <b>Reclamation Status</b>                | Condition of any historical mine reclamation  | Unreclaimed, Contamination Present                          | 10 |
|  |   | Reclamation insufficient /deteriorating                     | 8  |
|  |   | Unknown (waste inaccessible)                                | 5  |
|  |   | Reclamation effective                                       | 2  |
|  |   | Reclamation not needed                                      | 0  |



Table 4. MCAP Target Site Priority Ranking

| Target Site                    | Site ID | AUM/Non-AUM | Tronox Status                | Range      | Removal Site Evaluation Group | Physical Hazard       |       | Impacted Area |       | Material Characteristics   |       | Migration to Surface Water |       | Residential Exposure |       | Public Exposure             |       | Accessibility |       | Reclamation Status            |       | Total Score |
|--------------------------------|---------|-------------|------------------------------|------------|-------------------------------|-----------------------|-------|---------------|-------|----------------------------|-------|----------------------------|-------|----------------------|-------|-----------------------------|-------|---------------|-------|-------------------------------|-------|-------------|
|                                |         |             |                              |            |                               | Rationale             | Score | Acres         | Score | Rationale                  | Score | Rationale                  | Score | Rationale            | Score | Rationale                   | Score | Rationale     | Score | Rationale                     | Score |             |
| Mesa V Mine                    | 103     | AUM         | Tronox                       | Lukachukai | M5 South                      | Open Adit             | 10    | 3.43          | 10    | Fine (~1.3 acres) to Large | 10    | Elevated in Drainage       | 8     | None                 | 0     | Pinon gathering             | 10    | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 63          |
| Mesa II, Mine No. 1 & 2, P-21  | 601     | AUM         | Tronox                       | Lukachukai | M2 South                      | Major Erosion Channel | 10    | 4.54          | 10    | Fine (~1.7 acres) to Large | 10    | Seep/Spring in Waste Area  | 10    | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Offroad Trail | 6     | Additional Reclamation Needed | 8     | 61          |
| Mesa V Adit                    | 609     | AUM         | Tronox                       | Lukachukai | M5 South                      | None                  | 0     | 6.95          | 10    | Fine (~3 acres) to Large   | 10    | Elevated in Drainage       | 8     | None                 | 0     | Pinon gathering             | 10    | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 54          |
| Mesa I Mine 12                 | 655     | AUM         | Tronox                       | Lukachukai | M1 North                      | None                  | 0     | 15.84         | 10    | Fine (~1.3 acres) to Large | 10    | Elevated in Stream         | 8     | None                 | 0     | Near frequented road        | 8     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 52          |
| BR-01                          | N/A     | Non-AUM     | Attributable to Other Tronox | NW Carrizo | Brodie                        | None                  | 0     | 1.86          | 8     | Medium to Large            | 4     | Drainage > 0.25 mi         | 2     | Occupied < 0.25 mi   | 10    | Near occupied residence     | 10    | Paved Road    | 10    | Unreclaimed Non-AUM           | 6     | 50          |
| Mesa II 1/2, Mine 4            | 604     | AUM         | Tronox                       | Lukachukai | M3                            | None                  | 0     | 1.92          | 8     | Fine (~0.2 acres) to Large | 6     | Elevated in Drainage       | 8     | Unoccupied < 0.25 mi | 6     | Sheep camp                  | 8     | Offroad Trail | 6     | Additional Reclamation Needed | 8     | 50          |
| CT-02                          | N/A     | Non-AUM     | Within 1/4 Mile              | Lukachukai | Cove                          | None                  | 0     | 0.02          | 4     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | Occupied < 0.25 mi   | 10    | Within Cove                 | 10    | Paved Road    | 10    | Unreclaimed Non-AUM           | 6     | 48          |
| Mesa III Mine                  | 605     | AUM         | Tronox                       | Lukachukai | M3                            | None                  | 0     | 0.56          | 6     | Medium to Large            | 4     | Seep at Adit               | 10    | Unoccupied < 0.25 mi | 6     | Sheep camp                  | 8     | Offroad Trail | 6     | Additional Reclamation Needed | 8     | 48          |
| Mesa III, Northwest Mine       | 424     | AUM         | Within 1/4 Mile              | Lukachukai | M3                            | None                  | 0     | 0.55          | 6     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 0.25 mi | 6     | Sheep camp                  | 8     | Jeep Road     | 8     | Unreclaimed                   | 10    | 48          |
| Mesa III, West Mine            | 417     | AUM         | Within 1/4 Mile              | Lukachukai | M3                            | None                  | 0     | 0.78          | 6     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 0.25 mi | 6     | Sheep camp                  | 8     | Jeep Road     | 8     | Unreclaimed                   | 10    | 48          |
| Frank Jr. Mine                 | 421     | AUM         | Tronox                       | Lukachukai | M5 North                      | None                  | 0     | 4.89          | 10    | Medium to Large            | 4     | Elevated in Drainage       | 8     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 10    | Offroad Trail | 6     | Additional Reclamation Needed | 8     | 48          |
| South Portal, Frank No. 1 Mine | 106     | AUM         | Within 1/2 Mile              | Lukachukai | M4 West                       | None                  | 0     | 13.51         | 10    | Fine (~0.8 acres) to Large | 6     | Elevated in Drainage       | 8     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 47          |
| Mesa I Mine 11                 | 93      | AUM         | Tronox                       | Lukachukai | M1 North                      | None                  | 0     | 4.42          | 10    | Medium to Large            | 4     | Elevated in Drainage       | 8     | None                 | 0     | Near frequented road        | 8     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 46          |
| Mesa I Mine 13                 | 94      | AUM         | Tronox                       | Lukachukai | M1 North                      | None                  | 0     | 4.55          | 10    | Medium to Large            | 4     | Elevated in Drainage       | 8     | None                 | 0     | Near frequented road        | 8     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 46          |
| Mesa I Mine 14                 | 656     | AUM         | Tronox                       | Lukachukai | M1 North                      | None                  | 0     | 9.89          | 10    | Medium to Large            | 4     | Elevated in Drainage       | 8     | None                 | 0     | Near frequented road        | 8     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 46          |
| Mesa I Mine 15                 | 657     | AUM         | Tronox                       | Lukachukai | M1 North                      | None                  | 0     | 7.71          | 10    | Medium to Large            | 4     | Elevated in Drainage       | 8     | None                 | 0     | Near frequented road        | 8     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 46          |
| Cato No. 1 Pit                 | 426     | AUM         | Within 1/4 Mile              | Lukachukai | M5 North                      | None                  | 0     | 3.66          | 10    | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 10    | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 46          |
| Mesa IV, Mine No. 2            | 607     | AUM         | Tronox                       | Lukachukai | M4 North                      | None                  | 0     | 11.37         | 10    | Fine (~0.2 acres) to Large | 6     | Elevated in Drainage       | 8     | None                 | 0     | Accessible, visitation rare | 5     | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 45          |
| BR-02                          | N/A     | Non-AUM     | Attributable to Other Tronox | NW Carrizo | Brodie                        | None                  | 0     | 0.13          | 4     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | Occupied < 0.5 mi    | 8     | Near occupied residence     | 10    | Offroad Trail | 6     | Additional Reclamation Needed | 8     | 44          |
| Mesa V Incline                 | 610     | AUM         | Tronox                       | Lukachukai | M5 South                      | None                  | 0     | 1.08          | 8     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Pinon gathering             | 10    | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 44          |
| NA-0318                        | 99      | AUM         | Within 1/4 Mile              | Lukachukai | M5 South                      | None                  | 0     | 4.09          | 10    | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Pinon gathering             | 10    | Jeep Road     | 8     | Additional Reclamation Needed | 8     | 44          |

Table 4. MCAP Target Site Priority Ranking

| Target Site                    | Site ID | AUM/Non-AUM | Tronox Status        | Range      | Removal Site Evaluation Group | Physical Hazard |       | Impacted Area |       | Material Characteristics   |       | Migration to Surface Water |       | Residential Exposure |       | Public Exposure             |       | Accessibility   |       | Reclamation Status            |       | Total Score |
|--------------------------------|---------|-------------|----------------------|------------|-------------------------------|-----------------|-------|---------------|-------|----------------------------|-------|----------------------------|-------|----------------------|-------|-----------------------------|-------|-----------------|-------|-------------------------------|-------|-------------|
|                                |         |             |                      |            |                               | Rationale       | Score | Acres         | Score | Rationale                  | Score | Rationale                  | Score | Rationale            | Score | Rationale                   | Score | Rationale       | Score | Rationale                     | Score |             |
| Mesa I 3/4 Incline             | 95      | AUM         | Tronox               | Lukachukai | M2 South                      | None            | 0     | 8.12          | 10    | Fine (~0.4 acres) to Large | 6     | Elevated in Drainage       | 8     | None                 | 0     | Accessible, visitation rare | 5     | Offroad Trail   | 6     | Additional Reclamation Needed | 8     | 43          |
| Mesa II 1/4 Mine               | 96      | AUM         | Within 1/4 Mile      | Lukachukai | M2 South                      | None            | 0     | 0.72          | 10    | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 43          |
| East Portal, Frank No. 1 Mine  | 509     | AUM         | Within 1/2 Mile      | Lukachukai | M4 West                       | None            | 0     | 3.88          | 10    | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 43          |
| NA-0316                        | 107     | AUM         | Within 1/2 Mile      | Lukachukai | M4 West                       | None            | 0     | 3.51          | 10    | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 43          |
| Cov087                         | 507     | AUM         | Immediately Adjacent | Lukachukai | M5 South                      | None            | 0     | 1.24          | 8     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Unreclaimed                   | 10    | 43          |
| Mesa II 1/2 Mine               | 603     | AUM         | Tronox               | Lukachukai | M3                            | None            | 0     | 0.68          | 6     | Medium to Large            | 4     | Elevated in Drainage       | 8     | Unoccupied < 1 mi    | 2     | Sheep camp                  | 8     | Offroad Trail   | 6     | Additional Reclamation Needed | 8     | 42          |
| NA-0319                        | 612     | AUM         | Immediately Adjacent | Lukachukai | M6                            | None            | 0     | 2.02          | 10    | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 8     | Along trail     | 4     | Additional Reclamation Needed | 8     | 42          |
| Mesa I 3/4, Mine No. 2, P150   | 600     | AUM         | Tronox               | Lukachukai | M2 South                      | None            | 0     | 1.38          | 10    | Fine (~0.6 acres) to Large | 6     | Elevated in Drainage       | 8     | None                 | 0     | Accessible, visitation rare | 5     | Along trail     | 4     | Additional Reclamation Needed | 8     | 41          |
| Mesa II, Mine No. 1, P-150     | 602     | AUM         | Tronox               | Lukachukai | M2 South                      | None            | 0     | 0.76          | 6     | Fine (~0.2 acres) to Large | 6     | Elevated in Drainage       | 8     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Offroad Trail   | 6     | Additional Reclamation Needed | 8     | 41          |
| Cov068                         | 420     | AUM         | Within 1/4 Mile      | Lukachukai | M4 North                      | None            | 0     | 2.44          | 10    | Medium to Large            | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Accessible, visitation rare | 5     | Offroad Trail   | 6     | Unreclaimed                   | 10    | 41          |
| Mesa IV, Mine No. 1            | 606     | AUM         | Tronox               | Lukachukai | M4 North                      | None            | 0     | 2.03          | 10    | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 41          |
| Mesa IV, East Side             | 416     | AUM         | Within 1/2 Mile      | Lukachukai | M4 South                      | None            | 0     | 0.86          | 6     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Unreclaimed                   | 10    | 41          |
| North Portal, Frank No. 1 Mine | 505     | AUM         | Within 1/4 Mile      | Lukachukai | M5 South                      | None            | 0     | 1.8           | 8     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 41          |
| BR-04                          | N/A     | Non-AUM     | Within 1/4 Mile      | NW Carrizo | Brodie                        | None            | 0     | 0.05          | 4     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | Occupied < 0.5 mi    | 8     | Near occupied residence     | 8     | Offroad Trail   | 6     | Unreclaimed Non-AUM           | 6     | 40          |
| Brodie 1                       | 191     | AUM         | Other Tronox         | NW Carrizo | Brodie                        | None            | 0     | 0             | 2     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | Occupied < 0.5 mi    | 8     | Near occupied residence     | 10    | Maintained Road | 10    | Reclamation Effective         | 2     | 40          |
| Mesa I Mine 10                 | 654     | AUM         | Tronox               | Lukachukai | M1 North                      | None            | 0     | 0.39          | 4     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Near frequented road        | 8     | Jeep Road       | 8     | Unreclaimed                   | 10    | 38          |
| NA-0313                        | 660     | AUM         | Immediately Adjacent | Lukachukai | M3                            | None            | 0     | 0.36          | 4     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 8     | Offroad Trail   | 6     | Additional Reclamation Needed | 8     | 38          |
| Mesa IV, Mine No. 3            | 608     | AUM         | Tronox               | Lukachukai | M4 North                      | None            | 0     | 1.94          | 8     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 37          |
| Frank No. 2                    | 510     | AUM         | Within 1/2 Mile      | Lukachukai | M4 West                       | None            | 0     | 0.05          | 4     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 37          |
| Mesa V Mine                    | 508     | AUM         | Tronox               | Lukachukai | M5 South                      | None            | 0     | 0.14          | 4     | Medium to Large            | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road       | 8     | Additional Reclamation Needed | 8     | 37          |
| M5-02                          | N/A     | Non-AUM     | Within 1/4 Mile      | Lukachukai | M5 South                      | None            | 0     | 0.07          | 4     | Medium to Large            | 4     | Drainage > 0.25 mi         | 2     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 10    | Jeep Road       | 8     | Unreclaimed Non-AUM           | 6     | 36          |
| M5-04                          | N/A     | Non-AUM     | Within 1/4 Mile      | Lukachukai | M5 South                      | None            | 0     | 0.65          | 6     | Medium to Large            | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Pinon gathering             | 10    | Offroad Trail   | 6     | Unreclaimed Non-AUM           | 6     | 36          |



Table 4. MCAP Target Site Priority Ranking

| Target Site                      | Site ID | AUM/Non-AUM | Tronox Status          | Range      | Removal Site Evaluation Group | Physical Hazard |       | Impacted Area |       | Material Characteristics |       | Migration to Surface Water |       | Residential Exposure |       | Public Exposure             |       | Accessibility    |       | Reclamation Status            |       | Total Score |
|----------------------------------|---------|-------------|------------------------|------------|-------------------------------|-----------------|-------|---------------|-------|--------------------------|-------|----------------------------|-------|----------------------|-------|-----------------------------|-------|------------------|-------|-------------------------------|-------|-------------|
|                                  |         |             |                        |            |                               | Rationale       | Score | Acres         | Score | Rationale                | Score | Rationale                  | Score | Rationale            | Score | Rationale                   | Score | Rationale        | Score | Rationale                     | Score |             |
| Mesa VI Mine                     | 611     | AUM         | Tronox                 | Lukachukai | M6                            | None            | 0     | 0.23          | 4     | Medium to Large          | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 8     | Along trail      | 4     | Additional Reclamation Needed | 8     | 36          |
| Mesa II Pit                      | 287     | AUM         | Other Tronox           | Lukachukai | M2 North                      | None            | 0     | 0.68          | 6     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Accessible, visitation rare | 5     | Jeep Road        | 8     | Additional Reclamation Needed | 8     | 35          |
| Block K                          | 64      | AUM         | Tronox                 | NW Carrizo | Block K                       | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.25 mi   | 10    | Near occupied residence     | 10    | Maintained Road  | 10    | Reclamation Effective         | 2     | 34          |
| M5-05                            | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M5 South                      | None            | 0     | 0.06          | 4     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Pinon gathering             | 10    | Offroad Trail    | 6     | Unreclaimed Non-AUM           | 6     | 34          |
| M1-02                            | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M1 North                      | None            | 0     | 0.22          | 4     | Medium to Large          | 4     | Drainage > 0.25 mi         | 2     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Offroad Trail    | 6     | Unreclaimed                   | 10    | 33          |
| M4-04                            | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M4 North                      | None            | 0     | 0.57          | 6     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Offroad Trail    | 6     | Unreclaimed Non-AUM           | 6     | 33          |
| BK-02                            | N/A     | Non-AUM     | Within 1/4 Mile        | NW Carrizo | Block K                       | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.25 mi   | 10    | Near occupied residence     | 10    | Maintained Road  | 10    | Not Needed                    | 0     | 32          |
| CT-01                            | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | Cove                          | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.25 mi   | 10    | Within Cove                 | 10    | Paved Road       | 10    | Not Needed                    | 0     | 32          |
| CT-03                            | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | Cove                          | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.25 mi   | 10    | Within Cove                 | 10    | Paved Road       | 10    | Not Needed                    | 0     | 32          |
| Black No. 1 Mine                 | 512     | AUM         | Tronox                 | Lukachukai | Flag Mesa                     | None            | 0     | 2.68          | 10    | Medium to Large          | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 32          |
| Black No. 2 Mine                 | 205     | AUM         | Tronox                 | Lukachukai | Flag Mesa                     | None            | 0     | 3.94          | 10    | Medium to Large          | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 32          |
| NA-0343                          | 207     | AUM         | Within 1/4 Mile        | Lukachukai | Knife Edge Mesa               | None            | 0     | 4.02          | 10    | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 32          |
| M1-04                            | N/A     | Non-AUM     | Attributable to Tronox | Lukachukai | M1 North                      | None            | 0     | 2.38          | 10    | Medium to Large          | 4     | Elevated in Stream         | 8     | None                 | 0     | Difficult Access            | 2     | Long Stream Hike | 2     | Unreclaimed Non-AUM           | 6     | 32          |
| BK-01                            | N/A     | Non-AUM     | Within 1/4 Mile        | NW Carrizo | Block K                       | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.5 mi    | 8     | Near occupied residence     | 10    | Maintained Road  | 10    | Not Needed                    | 0     | 30          |
| Black No. 2 Mine (West)          | 206     | AUM         | Tronox                 | Lukachukai | Flag Mesa                     | None            | 0     | 1.40          | 8     | Medium to Large          | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 30          |
| Flag No. 1 Mine                  | 511     | AUM         | Tronox                 | Lukachukai | Flag Mesa                     | None            | 0     | 3.77          | 10    | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 30          |
| Knife Edge Mesa Mine             | 428     | AUM         | Other Tronox           | Lukachukai | Knife Edge Mesa               | None            | 0     | 1.10          | 8     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 30          |
| BR-05                            | N/A     | Non-AUM     | Within 1/4 Mile        | NW Carrizo | Brodie                        | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.5 mi    | 8     | Near occupied residence     | 8     | Maintained Road  | 10    | Not Needed                    | 0     | 28          |
| Mesa I 1/4 Mine                  | 423     | AUM         | Tronox                 | Lukachukai | M1 South                      | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Difficult Access            | 2     | Difficult Hike   | 2     | Unreclaimed                   | 10    | 28          |
| Cov000                           | 425     | AUM         | Within 1/4 Mile        | Lukachukai | M3                            | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Sheep camp                  | 8     | Jeep Road        | 8     | Not Needed                    | 0     | 28          |
| Mesa IV, West Mine               | 101     | AUM         | Other Tronox           | Lukachukai | M4 South                      | None            | 0     | 0.00          | 2     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road        | 8     | Reclamation Effective         | 2     | 27          |
| Mesa IV 1/2 Mine and Simpson 181 | 506     | AUM         | Tronox                 | Lukachukai | M5 South                      | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road        | 8     | Not Needed                    | 0     | 27          |
| BR-03                            | N/A     | Non-AUM     | Within 1/4 Mile        | NW Carrizo | Brodie                        | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.25 mi   | 10    | Near occupied residence     | 8     | Offroad Trail    | 6     | Not Needed                    | 0     | 26          |
| M1-05                            | N/A     | Non-AUM     | Attributable to Tronox | Lukachukai | M1 North                      | None            | 0     | 0.38          | 4     | Medium to Large          | 4     | Elevated in Stream         | 8     | None                 | 0     | Difficult Access            | 2     | Long Stream Hike | 2     | Unreclaimed Non-AUM           | 6     | 26          |

Table 4. MCAP Target Site Priority Ranking

| Target Site           | Site ID | AUM/Non-AUM | Tronox Status          | Range      | Removal Site Evaluation Group | Physical Hazard |       | Impacted Area |       | Material Characteristics |       | Migration to Surface Water |       | Residential Exposure |       | Public Exposure             |       | Accessibility    |       | Reclamation Status            |       | Total Score |
|-----------------------|---------|-------------|------------------------|------------|-------------------------------|-----------------|-------|---------------|-------|--------------------------|-------|----------------------------|-------|----------------------|-------|-----------------------------|-------|------------------|-------|-------------------------------|-------|-------------|
|                       |         |             |                        |            |                               | Rationale       | Score | Acres         | Score | Rationale                | Score | Rationale                  | Score | Rationale            | Score | Rationale                   | Score | Rationale        | Score | Rationale                     | Score |             |
| M1-06                 | N/A     | Non-AUM     | Attributable to Tronox | Lukachukai | M1 North                      | None            | 0     | 0.31          | 4     | Medium to Large          | 4     | Elevated in Stream         | 8     | None                 | 0     | Difficult Access            | 2     | Long Stream Hike | 2     | Unreclaimed Non-AUM           | 6     | 26          |
| Cato No. 2            | 104     | AUM         | Within 1/4 Mile        | Lukachukai | M6                            | None            | 0     | 0.87          | 6     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Additional Reclamation Needed | 8     | 26          |
| Mesa I 1/2 Mine       | 419     | AUM         | Tronox                 | Lukachukai | M1 South                      | None            | 0     | 0.59          | 6     | Medium to Large          | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Unknown                       | 5     | 25          |
| Tommy James Mine      | 203     | AUM         | Tronox                 | Lukachukai | Step Mesa                     | None            | 0     | 0.79          | 6     | Medium to Large          | 4     | Drainage < 200 ft          | 6     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Unknown                       | 5     | 25          |
| KE-01                 | N/A     | Non-AUM     | Within 1/2 Mile        | Lukachukai | Knife Edge Mesa               | None            | 0     | 0.61          | 6     | Medium to Large          | 4     | Drainage > 0.25 mi         | 2     | Unoccupied < 1 mi    | 2     | Difficult Access            | 2     | Difficult Hike   | 2     | Unreclaimed Non-AUM           | 6     | 24          |
| NA-0319               | 469     | AUM         | Within 1/4 Mile        | Lukachukai | M6                            | None            | 0     | 0             | 2     | None                     | 0     | Drainage < 200 ft          | 6     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 8     | Along trail      | 4     | Reclamation Effective         | 2     | 24          |
| NA-0333               | 201     | AUM         | Within 1/2 Mile        | Lukachukai | Step Mesa                     | None            | 0     | 0.15          | 4     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Additional Reclamation Needed | 8     | 24          |
| NA-0332               | 202     | AUM         | Within 1/2 Mile        | Lukachukai | Step Mesa                     | None            | 0     | 1.27          | 8     | Medium to Large          | 4     | Drainage > 0.25 mi         | 2     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Unknown                       | 5     | 23          |
| BR-06                 | N/A     | Non-AUM     | Within 1/4 Mile        | NW Carrizo | Brodie                        | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Occupied < 0.25 mi   | 10    | Accessible, visitation rare | 5     | Along trail      | 4     | Not Needed                    | 0     | 21          |
| Mesa II, Mine 4       | 285     | AUM         | Tronox                 | Lukachukai | M2 North                      | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Along trail      | 4     | Unknown                       | 5     | 21          |
| Step Mesa Mine        | 204     | AUM         | Tronox                 | Lukachukai | Step Mesa                     | None            | 0     | 0.49          | 4     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Unknown                       | 5     | 21          |
| KE-02                 | N/A     | Non-AUM     | Within 1/2 Mile        | Lukachukai | Knife Edge Mesa               | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage > 0.25 mi         | 2     | Unoccupied < 1 mi    | 2     | Difficult Access            | 2     | Difficult Hike   | 2     | Unreclaimed Non-AUM           | 6     | 20          |
| M5-01                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M5 South                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 10    | Offroad Trail    | 6     | Not Needed                    | 0     | 20          |
| M5-03                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M5 South                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 10    | Offroad Trail    | 6     | Not Needed                    | 0     | 20          |
| Henry Phillips Mine   | 286     | AUM         | Other Tronox           | Lukachukai | M1 South                      | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Unknown                       | 5     | 19          |
| Mesa I 1/2, West Mine | 288     | AUM         | Other Tronox           | Lukachukai | M1 South                      | None            | 0     | 0             | 2     | Medium to Large          | 4     | Drainage < 0.25 mi         | 4     | None                 | 0     | Difficult Access            | 2     | Inaccessible     | 2     | Unknown                       | 5     | 19          |
| M5-06                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M5 South                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Pinon gathering             | 10    | Offroad Trail    | 6     | Not Needed                    | 0     | 18          |
| M5-07                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M5 South                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Pinon gathering             | 10    | Offroad Trail    | 6     | Not Needed                    | 0     | 18          |
| M5-08                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | N/A                           | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 8     | Offroad Trail    | 6     | Not Needed                    | 0     | 18          |
| M5-09                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | N/A                           | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Pinon gathering             | 8     | Offroad Trail    | 6     | Not Needed                    | 0     | 18          |
| M4-02                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | N/A                           | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Jeep Road        | 8     | Not Needed                    | 0     | 17          |
| M4-01                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M4 West                       | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Accessible, visitation rare | 5     | Offroad Trail    | 6     | Not Needed                    | 0     | 15          |
| M1-01                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M1 North                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Accessible, visitation rare | 5     | Offroad Trail    | 6     | Not Needed                    | 0     | 13          |
| M1-03                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M1 North                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Accessible, visitation rare | 5     | Offroad Trail    | 6     | Not Needed                    | 0     | 13          |
| M2-01                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M3                            | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | Unoccupied < 1 mi    | 2     | Difficult Access            | 2     | Difficult Hike   | 2     | Unknown                       | 5     | 13          |
| M4-03                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | M4 North                      | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Accessible, visitation rare | 5     | Offroad Trail    | 6     | Not Needed                    | 0     | 13          |
| M1-07                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | N/A                           | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Not Needed                    | 0     | 6           |
| M1-08                 | N/A     | Non-AUM     | Within 1/4 Mile        | Lukachukai | N/A                           | None            | 0     | 0             | 2     | None                     | 0     | None                       | 0     | None                 | 0     | Difficult Access            | 2     | Difficult Hike   | 2     | Not Needed                    | 0     | 6           |



Table 5. MCAP Priority Assessment Areas and Recommendations

| Removal Site Eval. Group | Target Site                   | Site ID | Figures No.   | Recommendation - Type | Recommendation - Primary Task  | Recommendation - Detail  | Area Priority |
|--------------------------|-------------------------------|---------|---------------|-----------------------|--|--|---------------|
| Cove                     | CT-01                         | N/A     | 9A, 9B        | RSE                   | Assessment of elevated target areas within community                               | <ul style="list-style-type: none"> <li>Gamma scanning should be performed of 100% of the elevated Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning of school, ponds, and nearby residents</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> <li>Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | High          |
|                          | CT-02                         | N/A     |               |                       |  |  |               |
|                          | CT-03                         | N/A     |               |                       |  |  |               |
| M1-North                 | Mesa I Mine 11                | 93      | 10A, 10B, 10C | RSE                   | Characterization of waste material pushed off bench and documented in the drainage | <ul style="list-style-type: none"> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Road improvement evaluations to determine removal alternatives</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> <li>Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | Maximum       |
|                          | Mesa I Mine 13                | 94      |               |                       |  |  |               |
|                          | Mesa I Mine 10                | 654     |               |                       |  |  |               |
|                          | Mesa I Mine 12                | 655     |               |                       |  |  |               |
|                          | Mesa I Mine 14                | 656     |               |                       |  |  |               |
|                          | Mesa I Mine 15                | 657     |               |                       |  |  |               |
|                          | M1-01                         | N/A     |               |                       |  |  |               |
|                          | M1-02                         | N/A     |               |                       |  |  |               |
|                          | M1-03                         | N/A     |               |                       |  |  |               |
| M1 South                 | Henry Phillips Mine           | 286     | 11A, 11B, 11C | Road Assessment       | Inaccessible, further reconnaissance to determine if any access routes exist       | <ul style="list-style-type: none"> <li>Further site access route reconnaissance is needed to complete Removal Site Evaluation</li> <li>Historic records and document review, including reclamation specifications and drawings</li> <li>Review of historical aerial imagery and land-use / land-cover analysis</li> </ul>  | Medium        |
|                          | Mesa I 1/2, West Mine         | 288     |               |                       |  |  |               |
|                          | Mesa I 1/2 Mine               | 419     |               |                       |  |  |               |
|                          | Mesa I 1/4 Mine               | 423     |               |                       |  |  |               |
| M2 North                 | Mesa II, Mine 4               | 285     | 12A, 12B, 12C | RSE                   | Additional waste characterization, extent, and pathways                            | <ul style="list-style-type: none"> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> <li>Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | Medium        |
|                          | Mesa II Pit                   | 287     |               |                       |  |  |               |
| M2 South                 | Mesa I 3/4 Incline            | 95      | 13A, 13B, 13C | RSE                   | Evaluation of fine-grained reclamation areas                                       | <ul style="list-style-type: none"> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Assessment of reclamation erosion area</li> <li>Road improvement evaluations to determine removal alternatives</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> <li>Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul> | Maximum       |
|                          | Mesa II 1/4 Mine              | 96      |               |                       |  |  |               |
|                          | Mesa I 3/4, Mine No. 2, P150  | 600     |               |                       |  |  |               |
|                          | Mesa II, Mine No. 1 & 2, P-21 | 601     |               |                       |  |  |               |
|                          | Mesa II, Mine No. 1, P-150    | 602     |               |                       |  |  |               |

Table 5. MCAP Priority Assessment Areas and Recommendations

|          |                                |     |               |     |   |  |         |
|----------|--------------------------------|-----|---------------|-----|---|--|---------|
| M3       | Mesa III, West Mine            | 417 | 14A, 14B, 14C | RSE | Additional waste characterization, extent, and pathways | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Detailed aerial site surveys may be warranted to estimate volumes</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | Maximum |
|          | Mesa III, Northwest Mine       | 424 |               |     |   |  |         |
|          | Cov000                         | 425 |               |     |   |  |         |
|          | Mesa II 1/2 Mine               | 603 |               |     |   |  |         |
|          | Mesa II 1/2, Mine 4            | 604 |               |     |   |  |         |
|          | Mesa III Mine                  | 605 |               |     |   |  |         |
|          | NA-0313                        | 660 |               |     |   |  |         |
|          | M2-01                          | N/A |               |     |   |  |         |
| M4 North | Cov068                         | 420 | 15A, 15B, 15C | RSE | Additional waste characterization, extent, and pathways | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Detailed aerial site surveys may be warranted to estimate volumes</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | High    |
|          | Mesa IV, Mine No. 1            | 606 |               |     |   |  |         |
|          | Mesa IV, Mine No. 2            | 607 |               |     |   |  |         |
|          | Mesa IV, Mine No. 3            | 608 |               |     |   |  |         |
|          | M4-03                          | N/A |               |     |   |  |         |
|          | M4-04                          | N/A |               |     |   |  |         |
| M4 South | Mesa IV, West Mine             | 101 | 16A, 16B, 61C | RSE | Additional waste characterization, extent, and pathways | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Detailed aerial site surveys may be warranted to estimate volumes</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | High    |
|          | Mesa IV, East Side             | 416 |               |     |   |  |         |
| M4 West  | South Portal, Frank No. 1 Mine | 106 | 17A, 17B, 17C | RSE | Additional waste characterization, extent, and pathways | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Detailed aerial site surveys may be warranted to estimate volumes</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul>   | High    |
|          | NA-0316                        | 107 |               |     |   |  |         |
|          | East Portal, Frank No. 1 Mine  | 509 |               |     |   |  |         |
|          | Frank No. 2                    | 510 |               |     |   |  |         |
|          | M4-01                          | N/A |               |     |   |  |         |
| M5 North | Frank Jr. Mine                 | 421 | 18A, 18B, 18C | RSE | Additional waste characterization, extent, and pathways | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Further site access route reconnaissance may be needed at selected areas</li> <li>• Road improvement evaluations to determine removal alternatives</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Detailed aerial site surveys may be warranted to estimate volumes</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul> | High    |
|          | Cato No. 1 Pit                 | 426 |               |     |   |  |         |



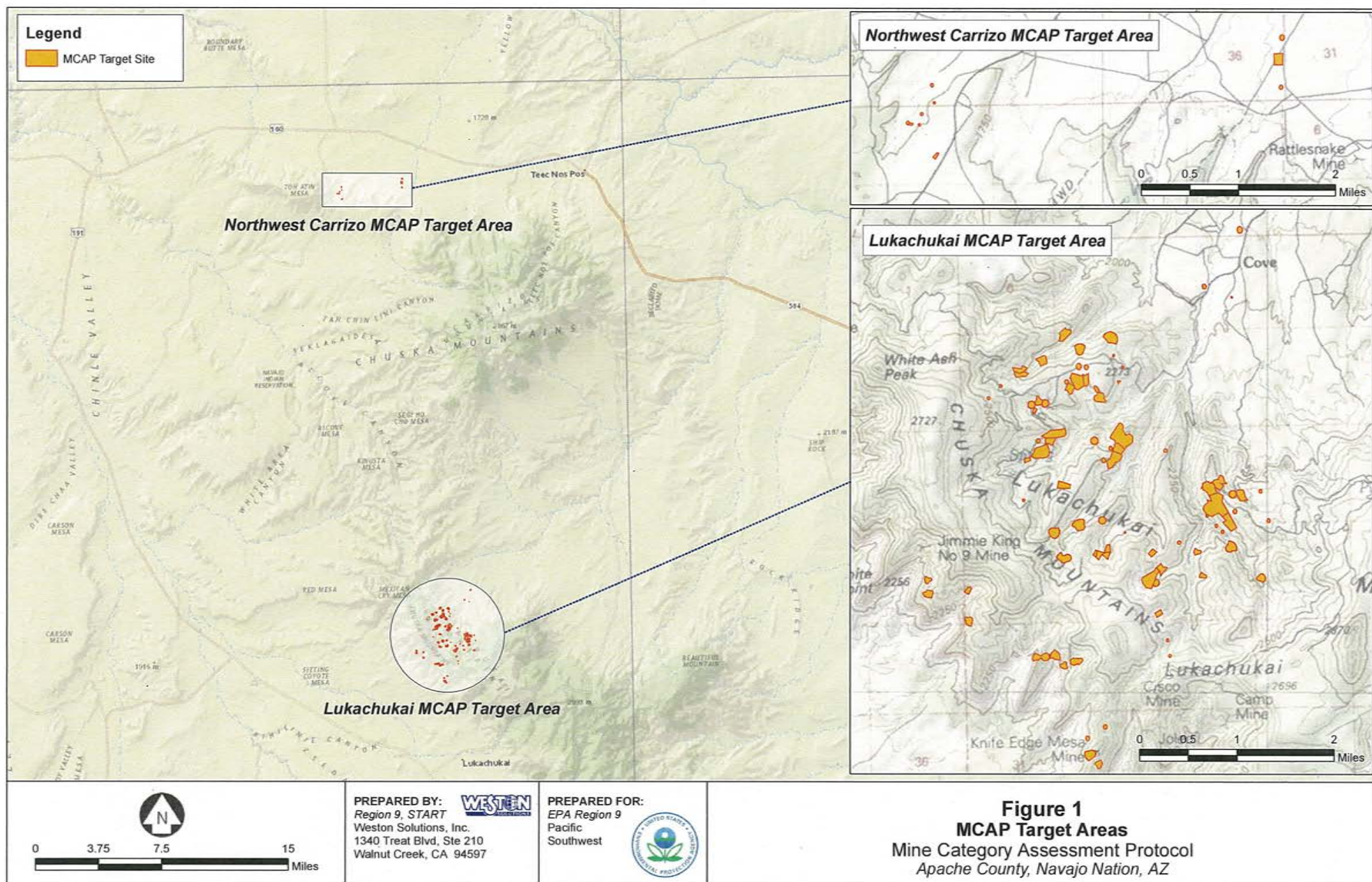
Table 5. MCAP Priority Assessment Areas and Recommendations

|                 |                                |     |                  |     |   |   |         |
|-----------------|--------------------------------|-----|------------------|-----|---|---|---------|
| M5 South        | NA-0318                        | 99  | 19A, 19B,<br>19C | RSE | Survey of open and accessible adit, and additional waste characterization, extent, and pathways             | <ul style="list-style-type: none"> <li>Underground surveys of open and exposed adits</li> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Further site access route reconnaissance may be needed at selected areas</li> <li>Road improvement evaluations to determine removal alternatives</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> <li>Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul> | Maximum |
|                 | Mesa V Mine                    | 103 |                  |     |   |   |         |
|                 | North Portal, Frank No. 1 Mine | 505 |                  |     |   |   |         |
|                 | Mesa IV 1/2 Mine and Simpson   | 506 |                  |     |   |   |         |
|                 | Cov087                         | 507 |                  |     |   |   |         |
|                 | Mesa V Mine                    | 508 |                  |     |   |   |         |
|                 | Mesa V Adit                    | 609 |                  |     |   |   |         |
|                 | Mesa V Incline                 | 610 |                  |     |   |   |         |
|                 | M5-01                          | N/A |                  |     |   |   |         |
|                 | M5-02                          | N/A |                  |     |   |   |         |
|                 | M5-03                          | N/A |                  |     |   |   |         |
|                 | M5-04                          | N/A |                  |     |   |   |         |
|                 | M5-05                          | N/A |                  |     |   |   |         |
|                 | M5-06                          | N/A |                  |     |   |   |         |
|                 | M5-07                          | N/A |                  |     |   |   |         |
| M6              | Cato No. 2                     | 104 | 20A, 20B,<br>20C | RSE | Additional waste characterization, extent, and pathways, and possible survey of inaccessible but open adits | <ul style="list-style-type: none"> <li>Underground surveys of open and exposed adits</li> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Further site access route reconnaissance may be needed at selected areas</li> <li>Road improvement evaluations to determine removal alternatives</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> <li>Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul> | High    |
|                 | NA-0319                        | 469 |                  |     |   |   |         |
|                 | Mesa VI Mine                   | 611 |                  |     |   |   |         |
|                 | NA-0319                        | 612 |                  |     |   |   |         |
| Knife Edge Mesa | KE-01                          | N/A | 21A, 21B,<br>21C | RSE | Additional waste characterization, extent, and pathways   | <ul style="list-style-type: none"> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Further site access route reconnaissance may be needed at selected areas</li> <li>Road improvement evaluations to determine removal alternatives</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> </ul>   | Medium  |
|                 | KE-02                          | N/A |                  |     |   |   |         |
|                 | NA-0343                        | 207 |                  |     |   |   |         |
|                 | Knife Edge Mesa Mine           | 428 |                  |     |   |   |         |
| Flag Mesa       | Black No. 2 Mine               | 205 | 22A, 22B,<br>22C | RSE | Additional waste characterization, extent, and pathways   | <ul style="list-style-type: none"> <li>Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>Further site access route reconnaissance may be needed at selected areas</li> <li>Road improvement evaluations to determine removal alternatives</li> <li>Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>Detailed aerial site surveys may be warranted to estimate volumes</li> <li>Surface sampling of waste and cover material to confirm scanning data</li> </ul>   | Medium  |
|                 | Black No. 2 Mine (West)        | 206 |                  |     |   |   |         |
|                 | Flag No. 1 Mine                | 511 |                  |     |   |   |         |
|                 | Black No. 1 Mine               | 512 |                  |     |   |   |         |

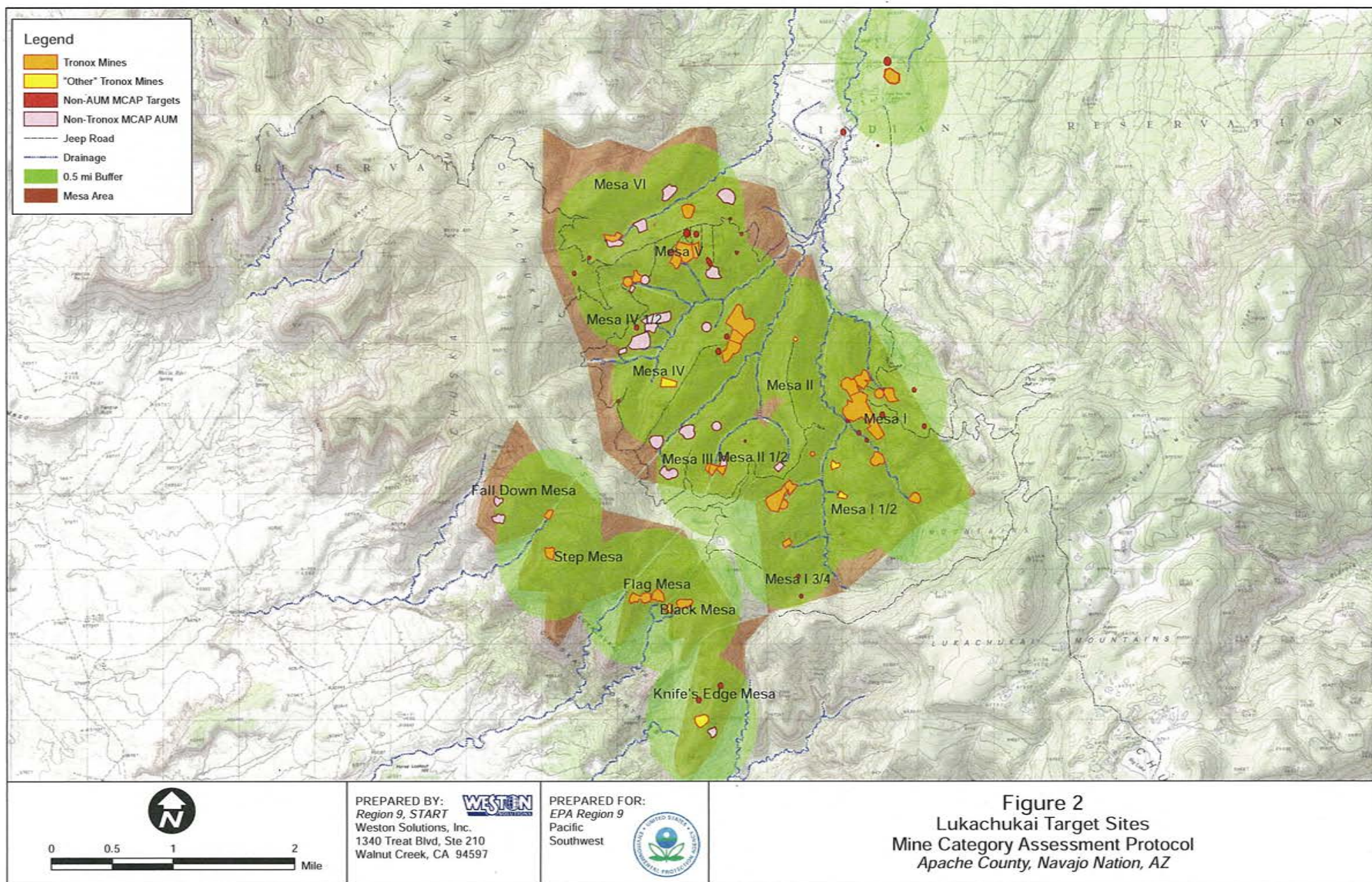
**Table 5. MCAP Priority Assessment Areas and Recommendations**

|           |                  |     |               |                                  |  |   |         |
|-----------|------------------|-----|---------------|----------------------------------|--|---|---------|
| Step Mesa | NA-0333          | 201 | 23A, 23B, 23C | Road Assessment                  | Inaccessible, further reconnaissance to determine if any access routes exist     | <ul style="list-style-type: none"> <li>• Further site access route reconnaissance is needed to complete Removal Site Evaluation</li> <li>• Historic records and document review, including reclamation specifications and drawings</li> <li>• Review of historical aerial imagery and land-use / land-cover analysis</li> </ul>   | Low     |
|           | NA-0332          | 202 |               |                                  |  |   |         |
|           | Tommy James Mine | 203 |               |                                  |  |   |         |
|           | Step Mesa Mine   | 204 |               |                                  |  |   |         |
| Brodie    | Brodie 1         | 191 | 24A, 24B, 24C | RSE                              | Assessment of BR-01 Target Site, pit area near residence                         | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul> | Maximum |
|           | BR-01            | N/A |               |                                  |  |   |         |
|           | BR-02            | N/A |               |                                  |  |   |         |
|           | BR-04            | N/A |               |                                  |  |   |         |
| Block K   | Block K          | 64  | 25A, 25B      | Confirmation Scanning / Sampling | Confirmation scanning and sampling to determine if site is adequately remediated | <ul style="list-style-type: none"> <li>• Gamma scanning should be performed of 100% of safely-accessible areas within the AUMs, Target Sites, roads, and other potentially disturbed areas</li> <li>• Gamma scanning transects (distances to be determined) of areas between AUMs and Target Sites</li> <li>• Waste volume estimates at accessible and inaccessible impacted areas, such and lower bench areas</li> <li>• Surface sampling of waste and cover material to confirm scanning data</li> <li>• Subsurface sampling with limited access drilling equipment, at accessible locations</li> </ul> | Medium  |







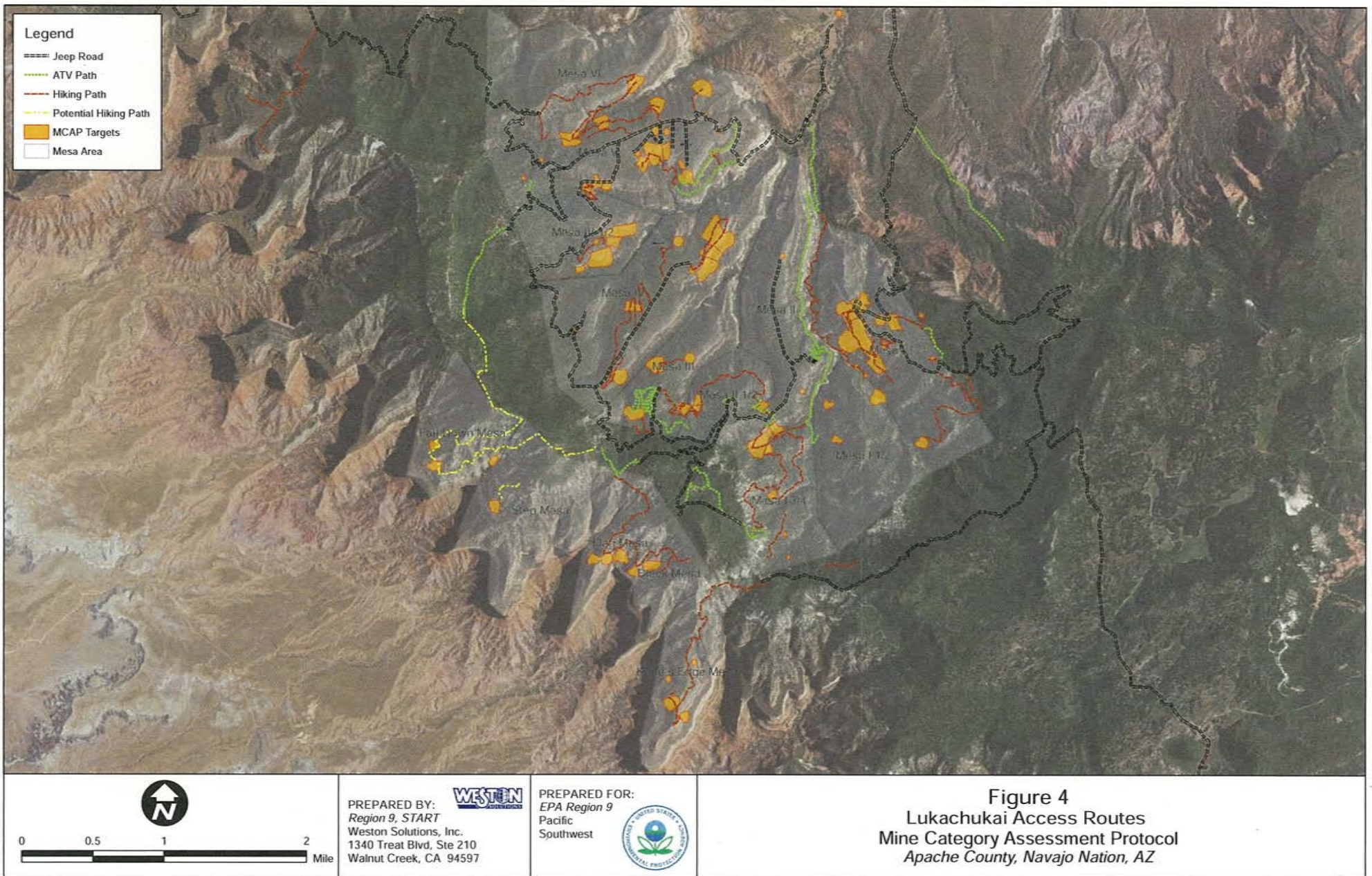


**Figure 2**  
**Lukachukai Target Sites**  
**Mine Category Assessment Protocol**  
**Apache County, Navajo Nation, AZ**

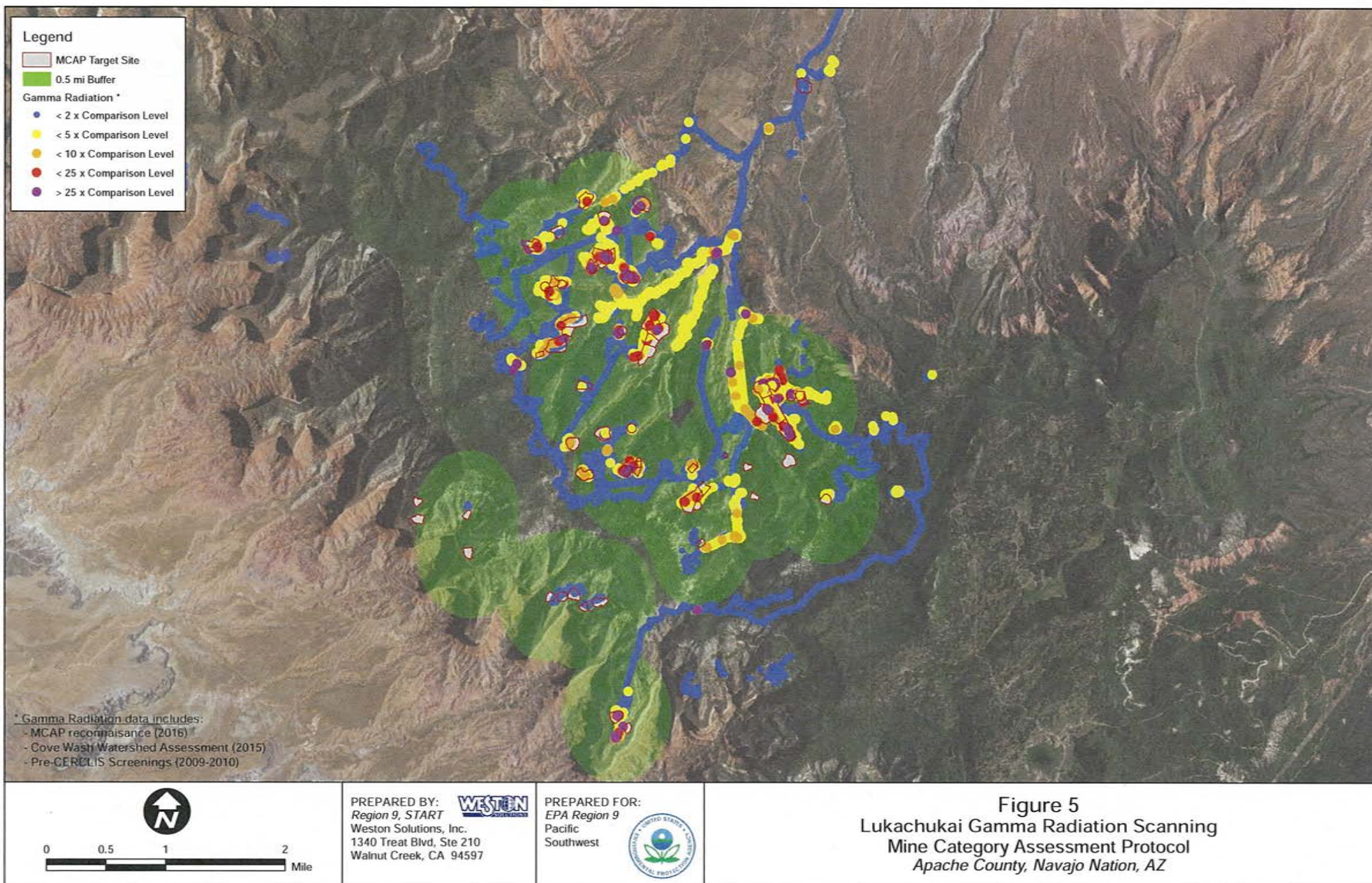
















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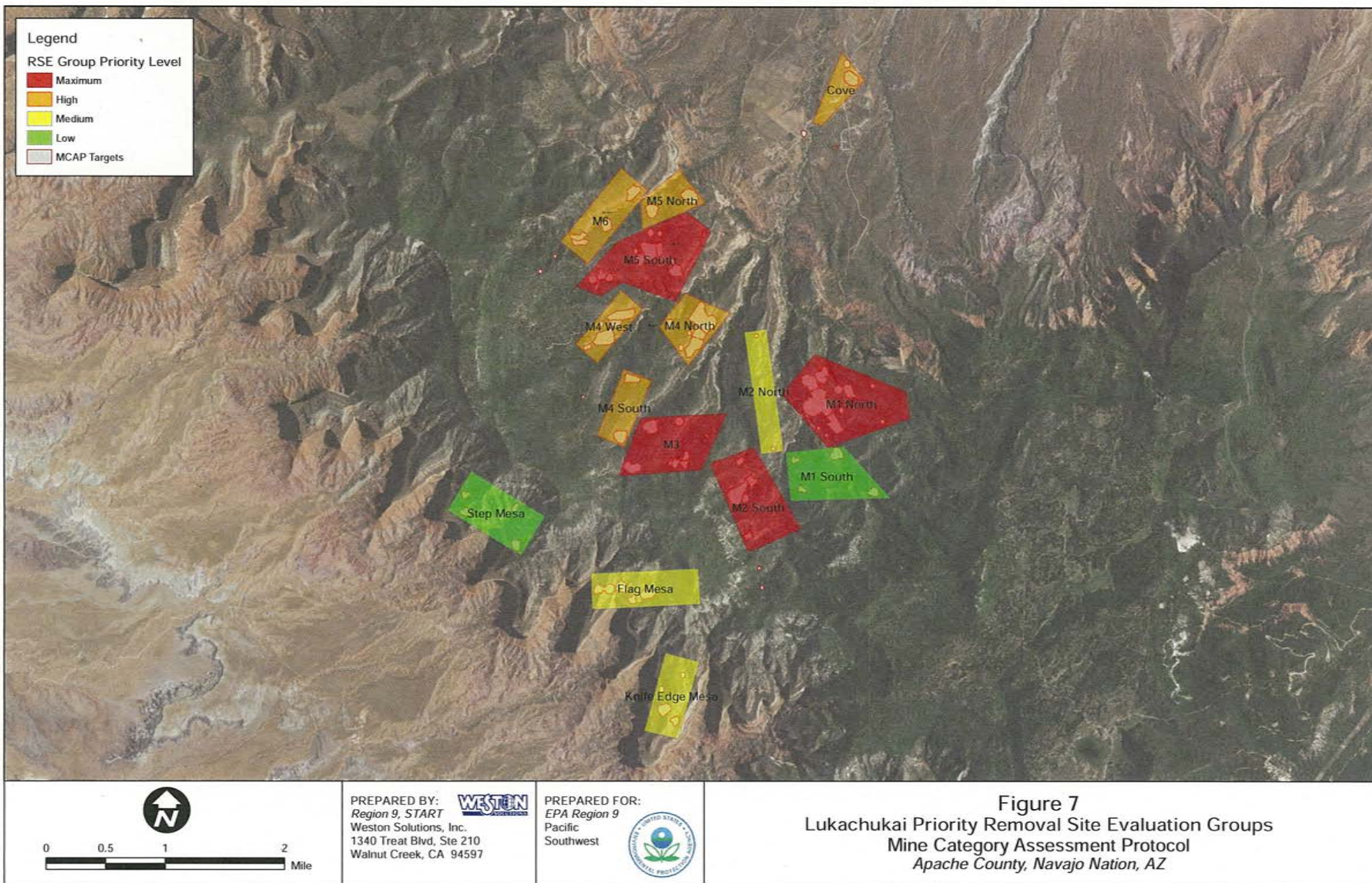


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**Figure 6**  
 Northwest Carrizo Gamma Radiation Scanning  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ





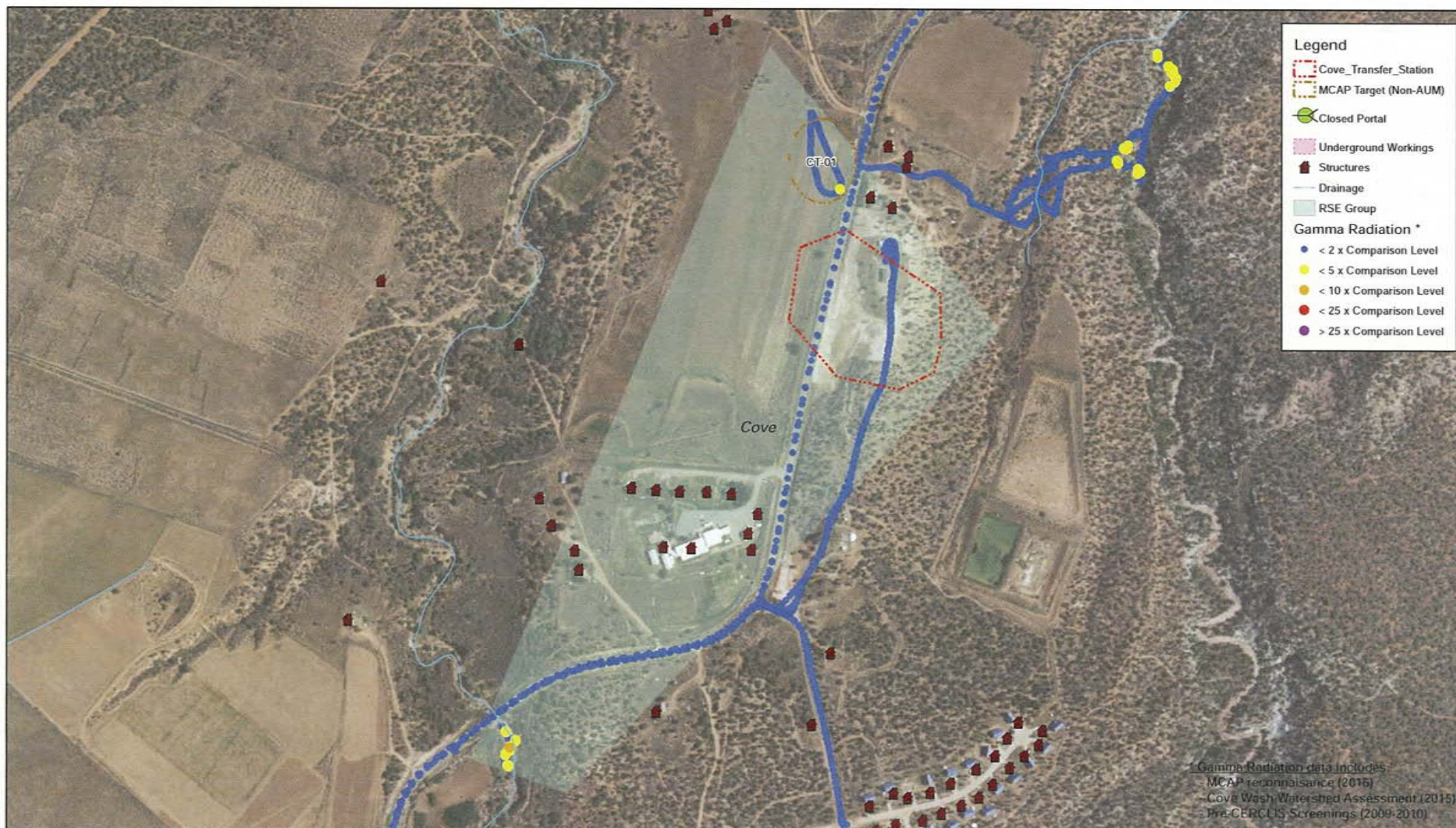










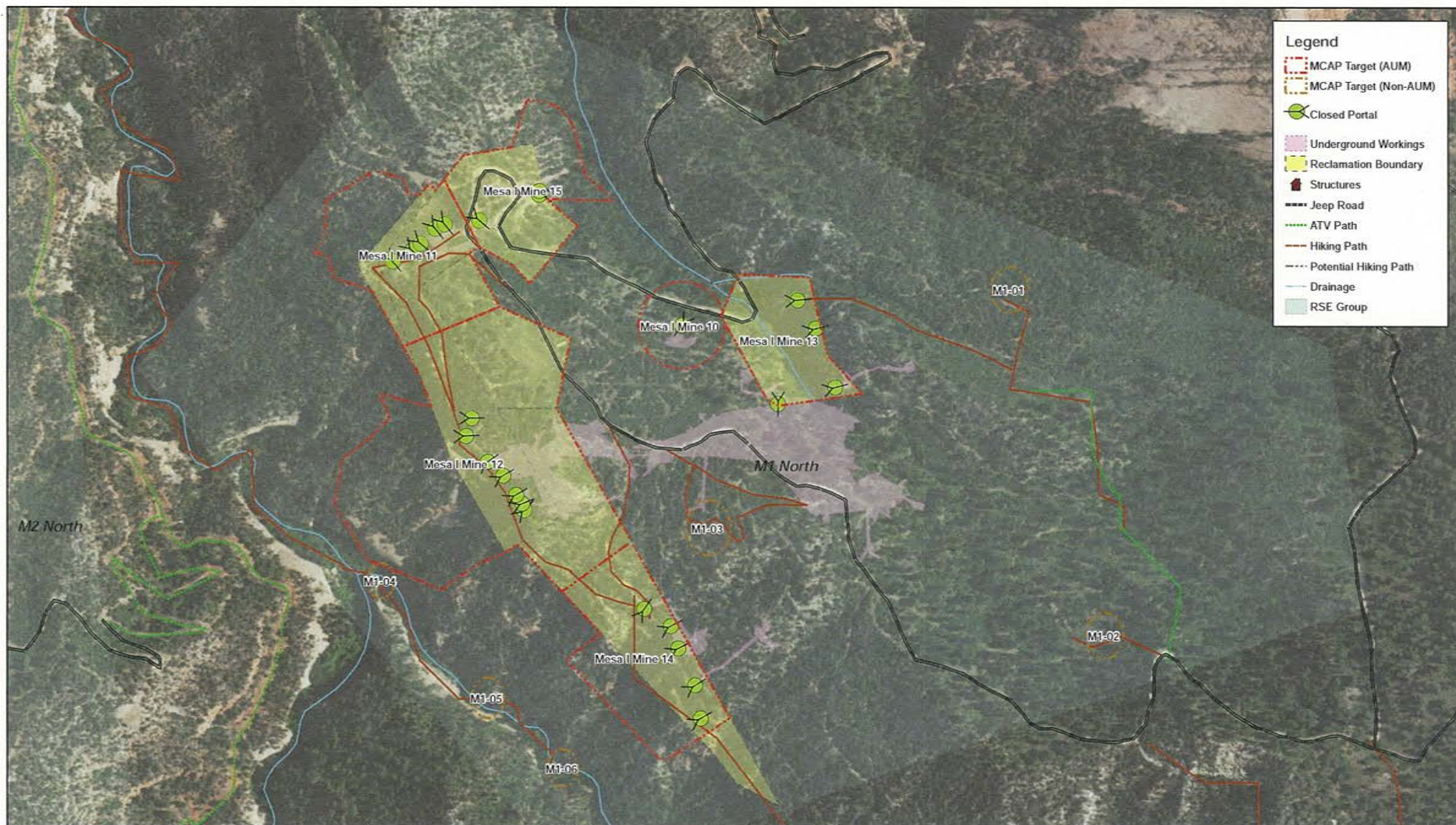


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**Figure 9 B**  
 Cove Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ





- Legend**
- MCAP Target (AUM)
  - MCAP Target (Non-AUM)
  - Closed Portal
  - Underground Workings
  - Reclamation Boundary
  - Structures
  - Jeep Road
  - ATV Path
  - Hiking Path
  - Potential Hiking Path
  - Drainage
  - RSE Group



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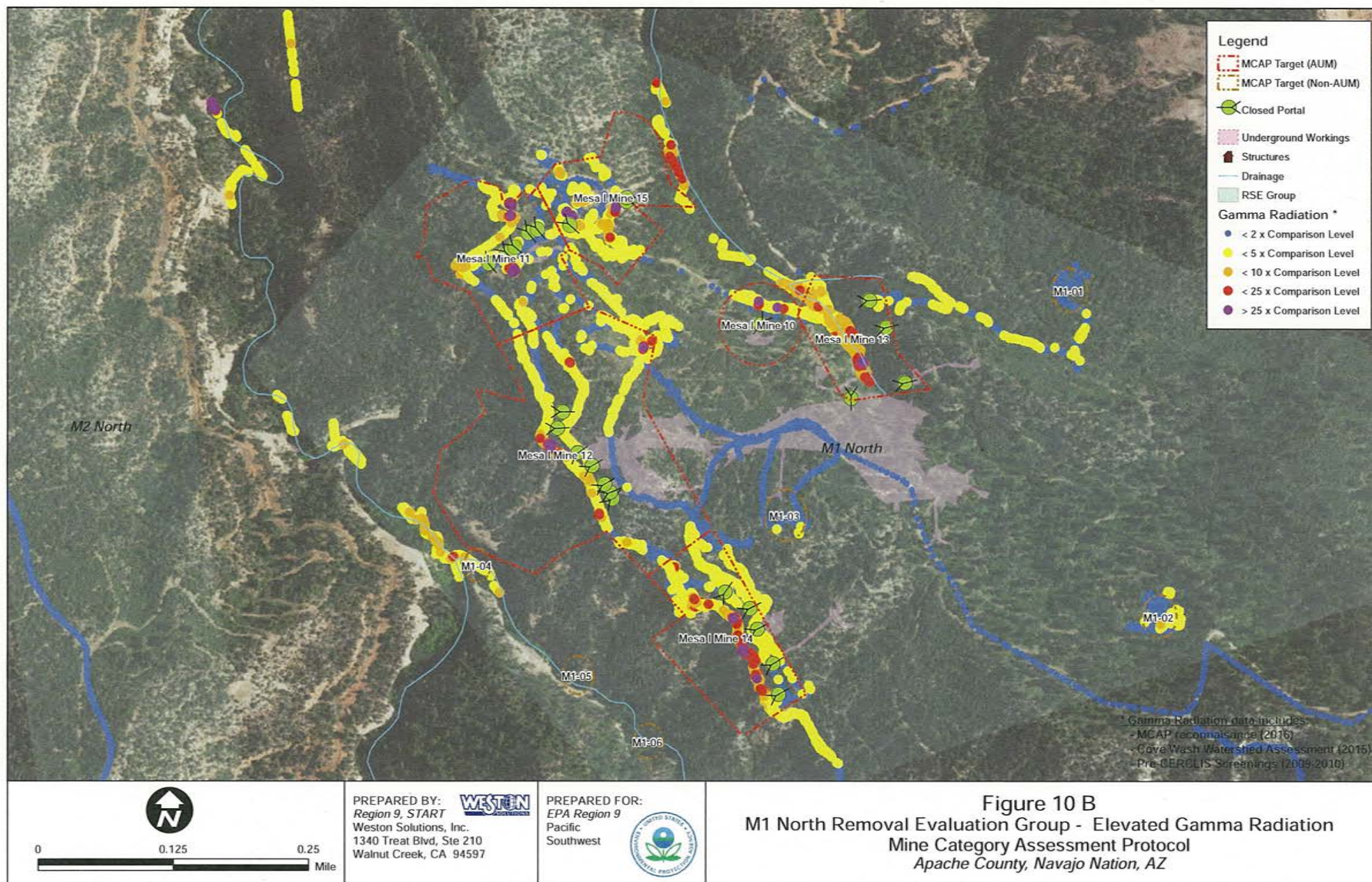


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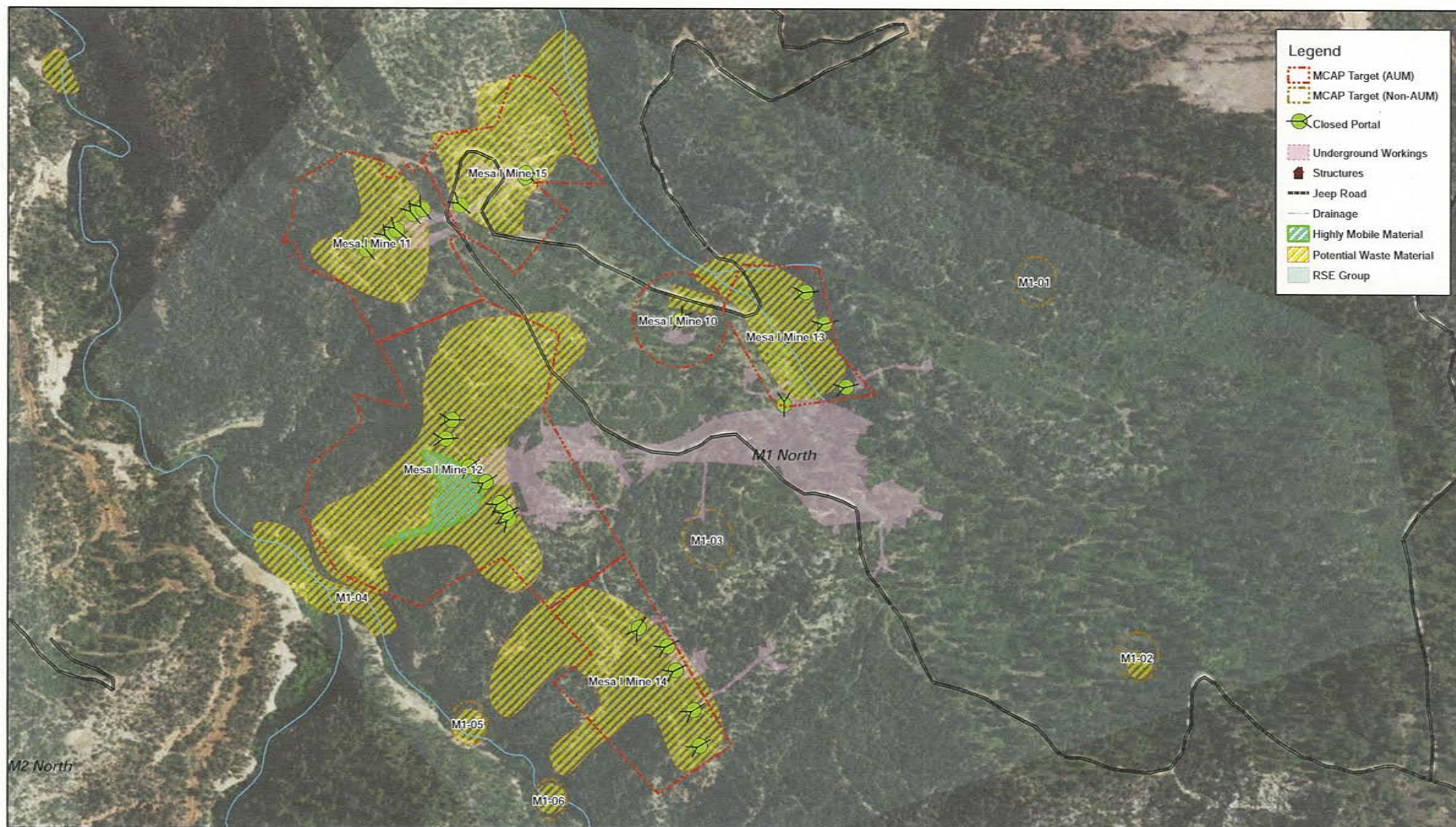


**Figure 10 A**  
**M1 North Removal Evaluation Group - Layout**  
**Mine Category Assessment Protocol**  
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Figure 10 C  
M1 North Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
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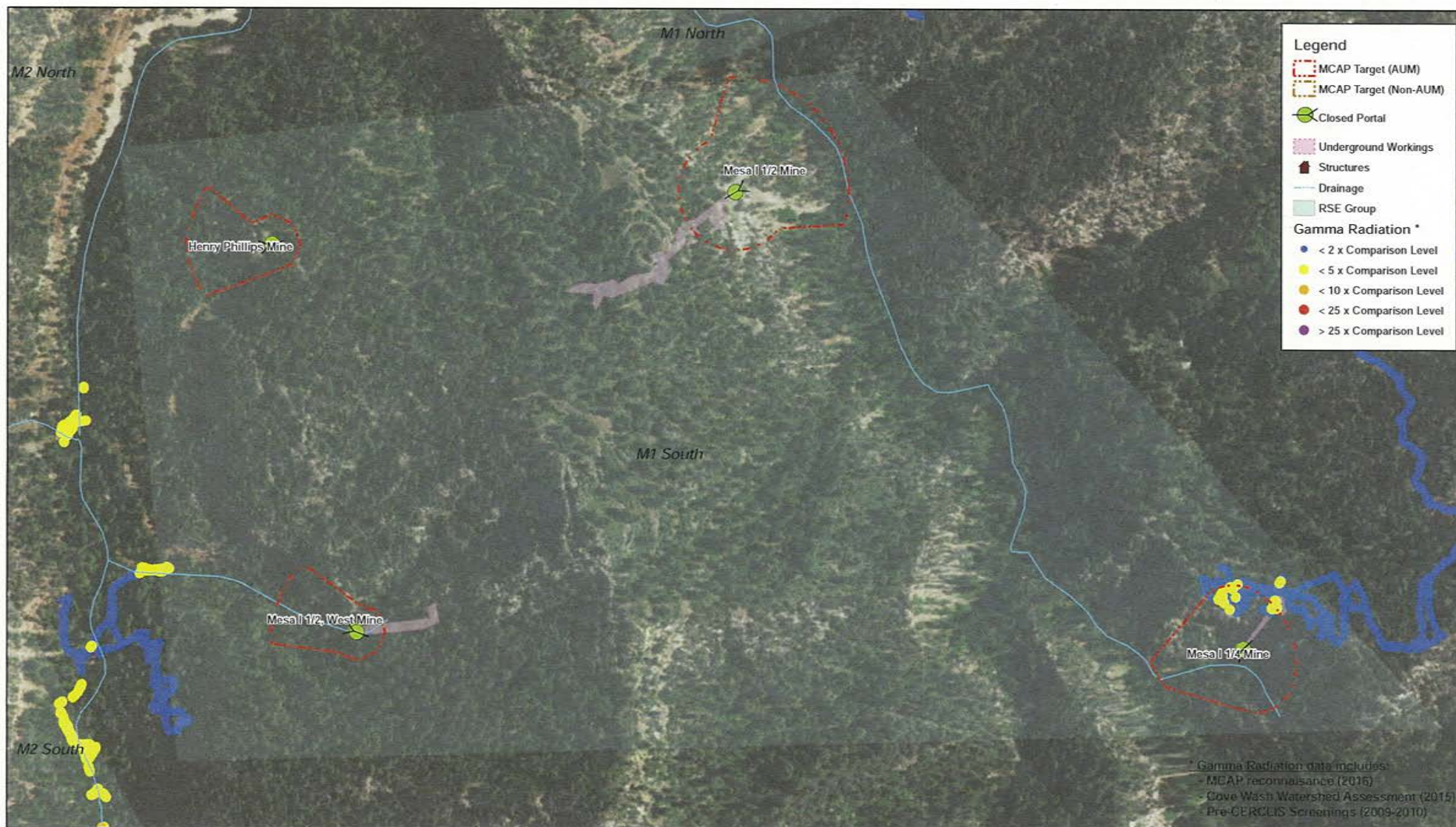


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**Figure 11 A**  
**M1 South Removal Evaluation Group - Layout**  
**Mine Category Assessment Protocol**  
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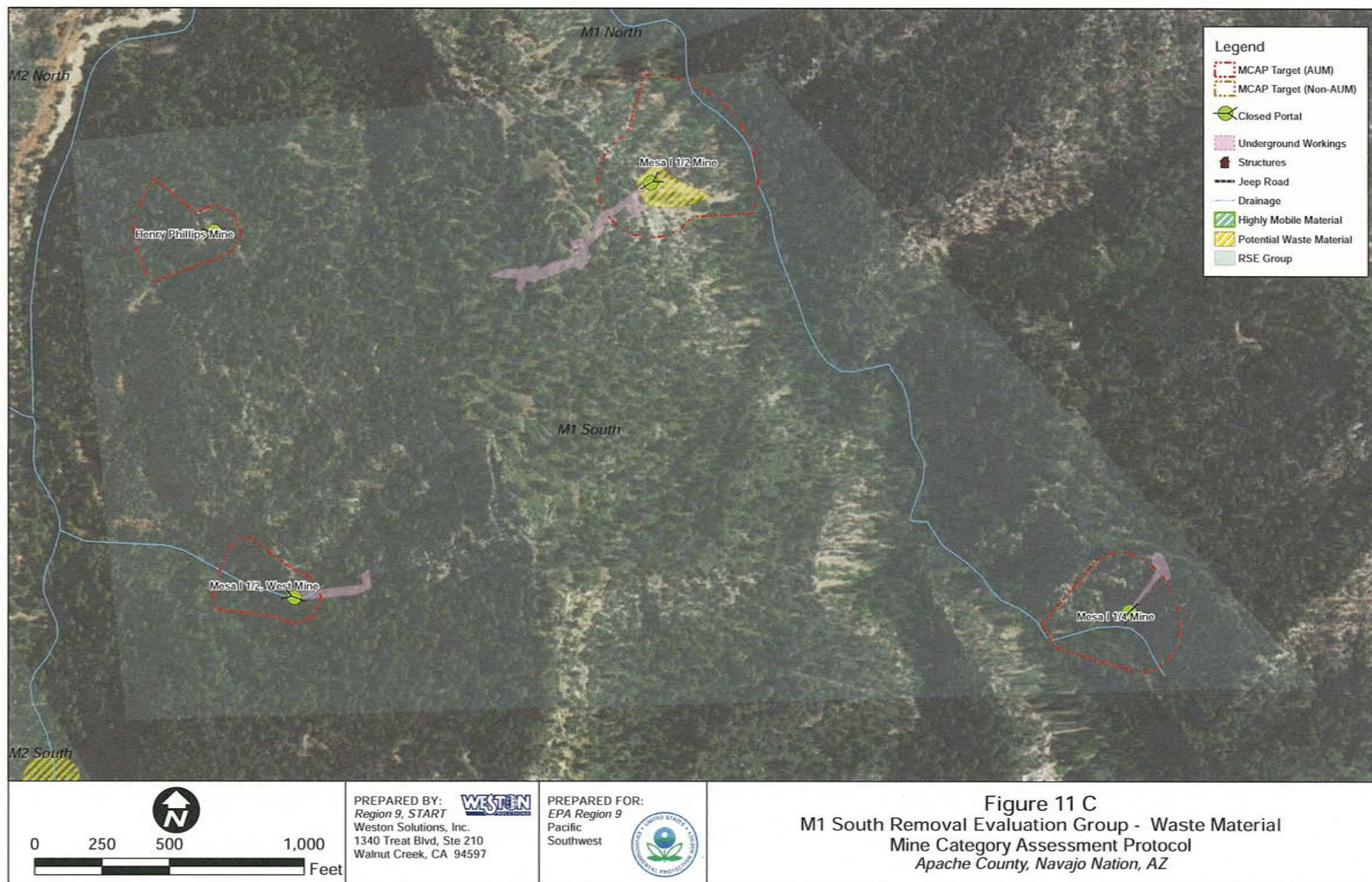


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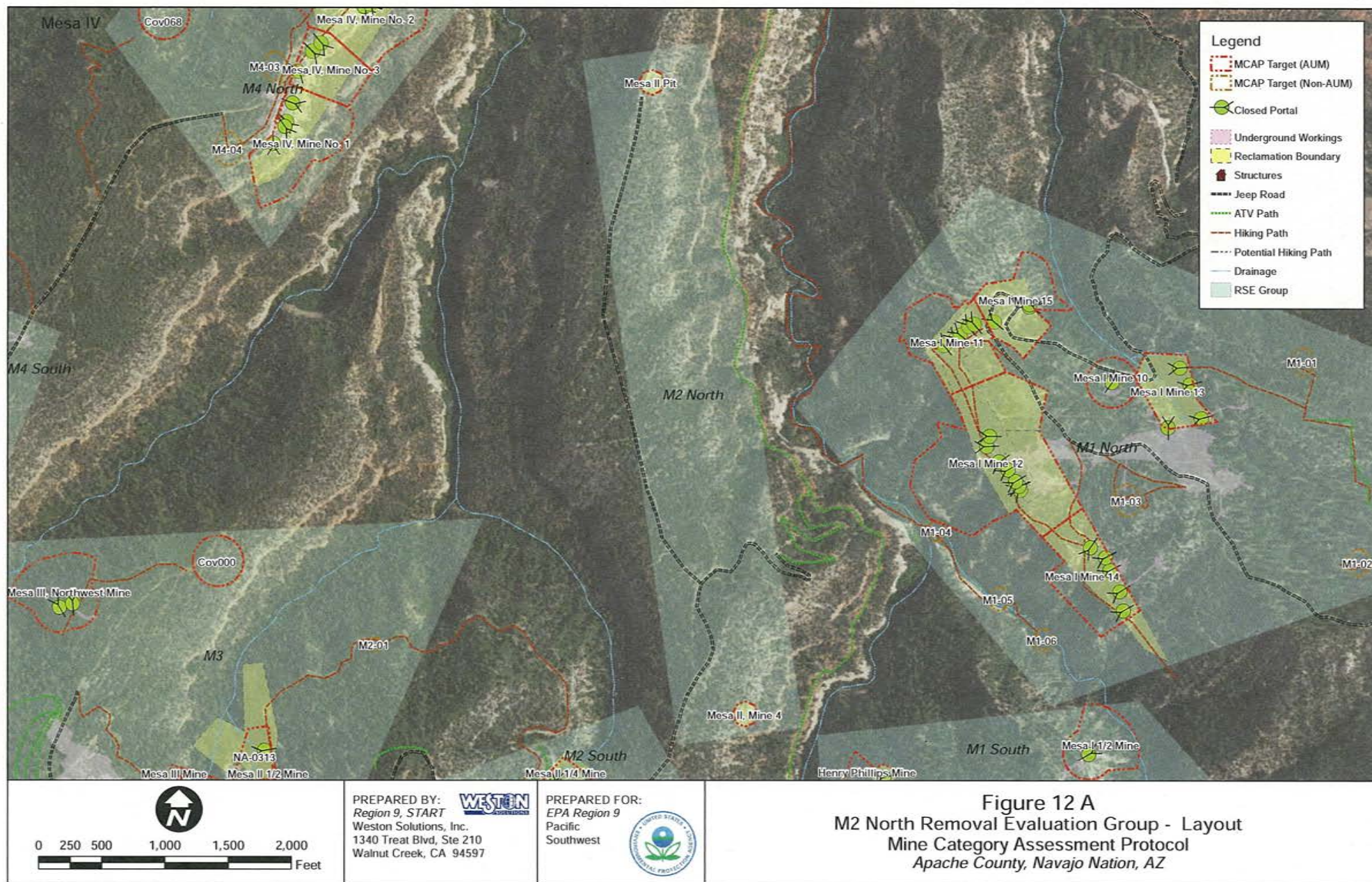


**Figure 11 B**  
 M1 South Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ

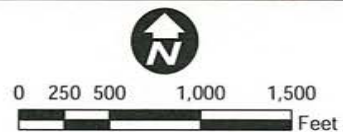
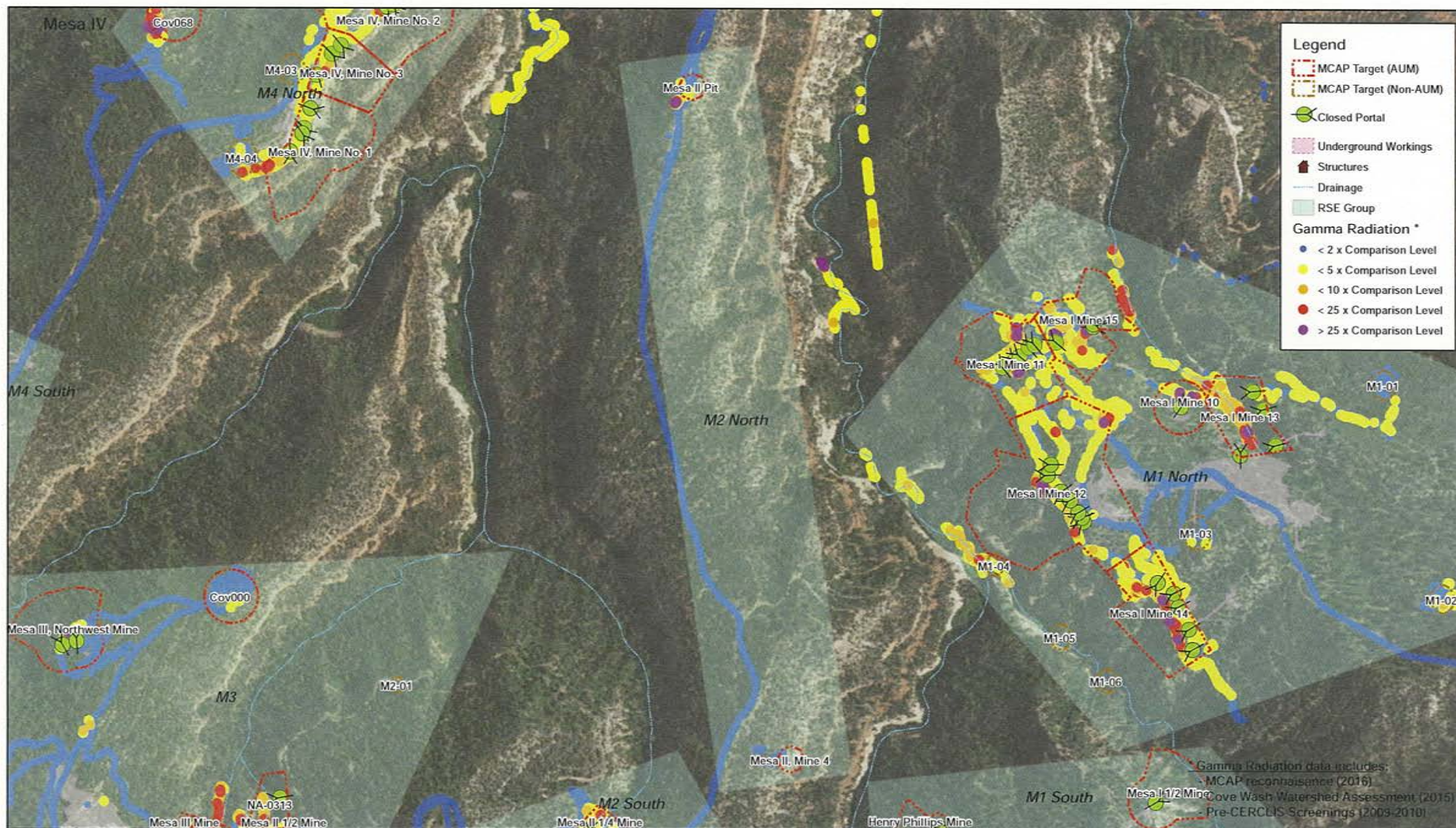












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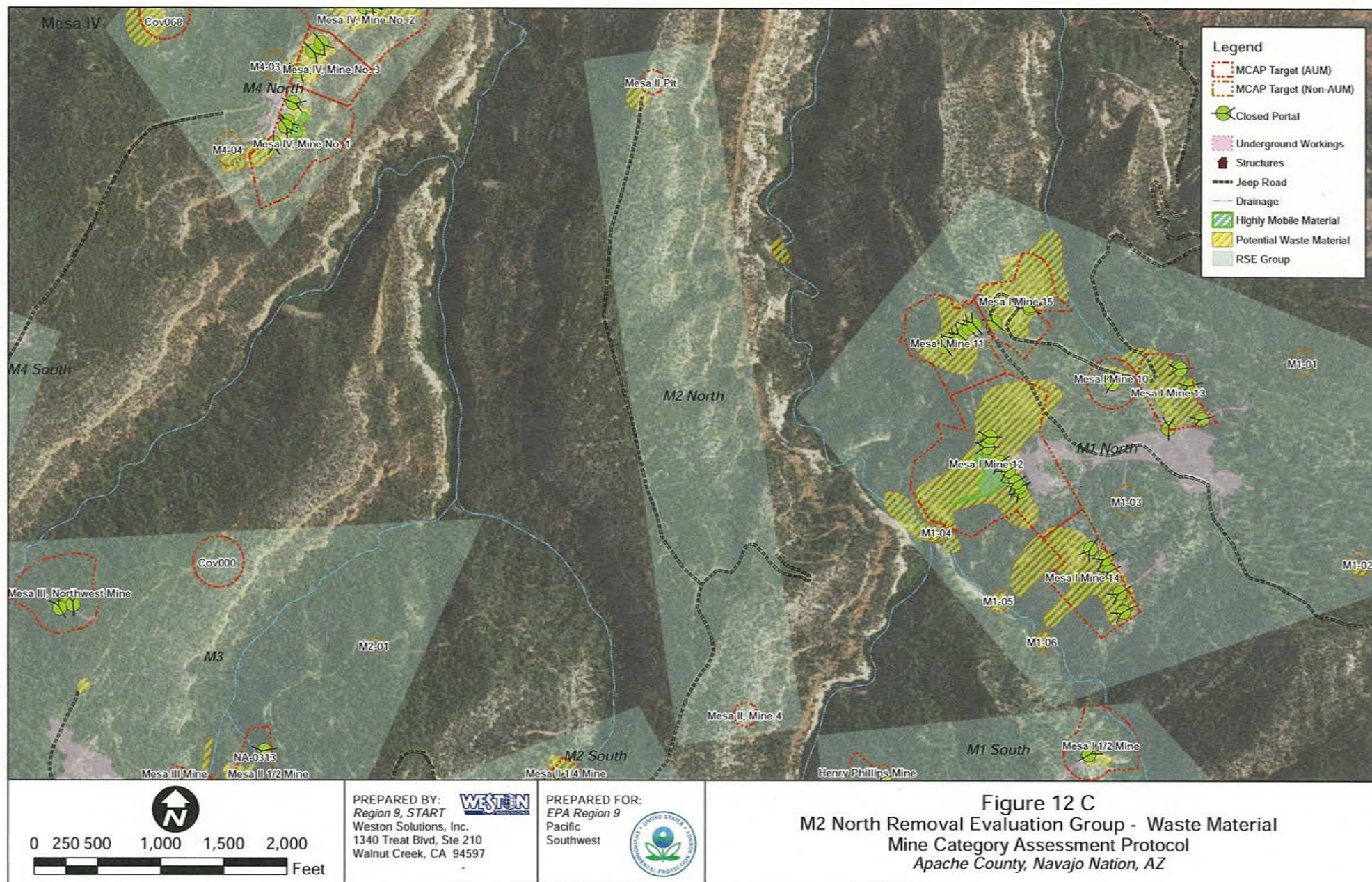


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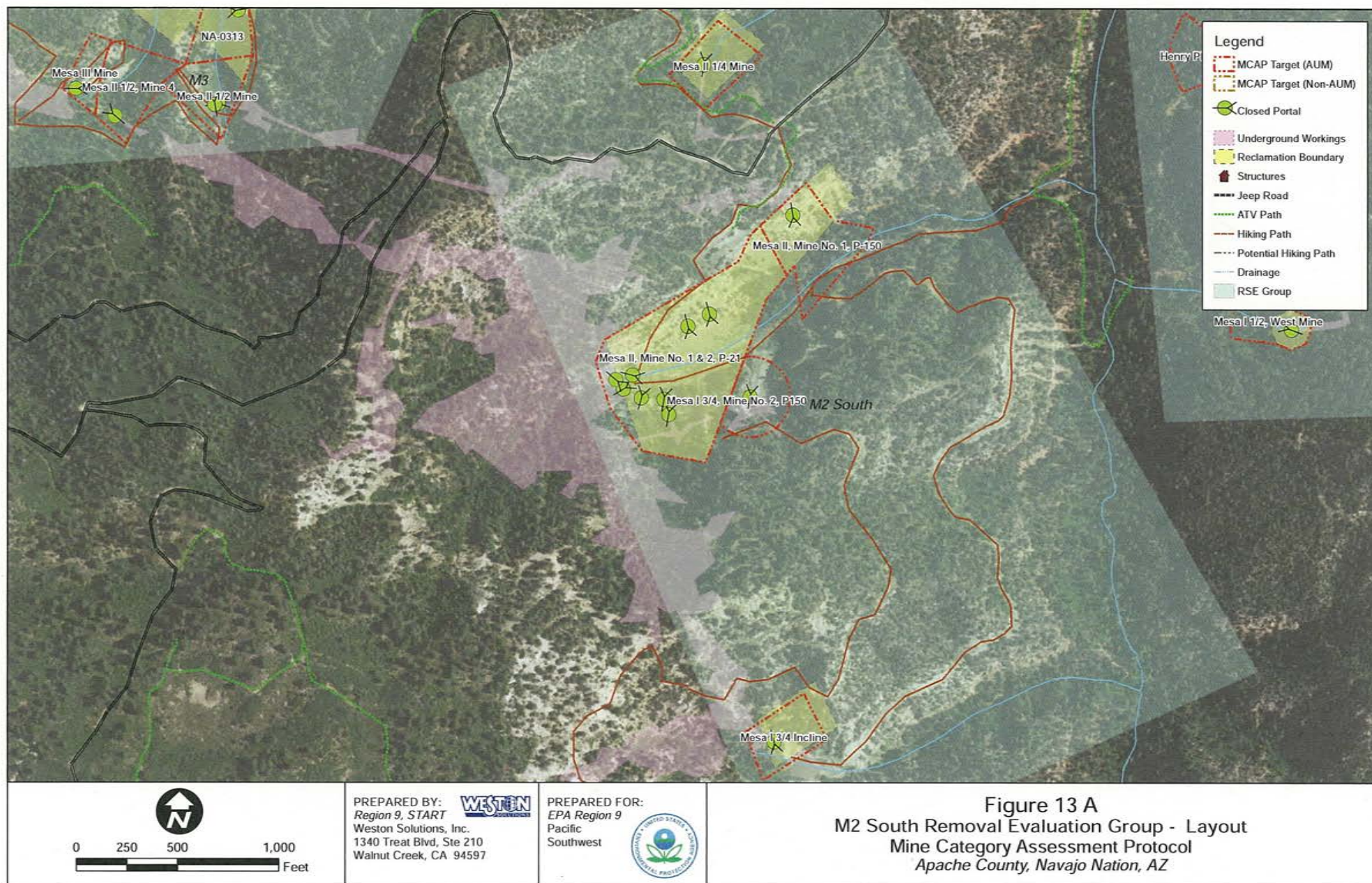


**Figure 12 B**  
**M2 North Removal Evaluation Group - Elevated Gamma Radiation**  
**Mine Category Assessment Protocol**  
**Apache County, Navajo Nation, AZ**

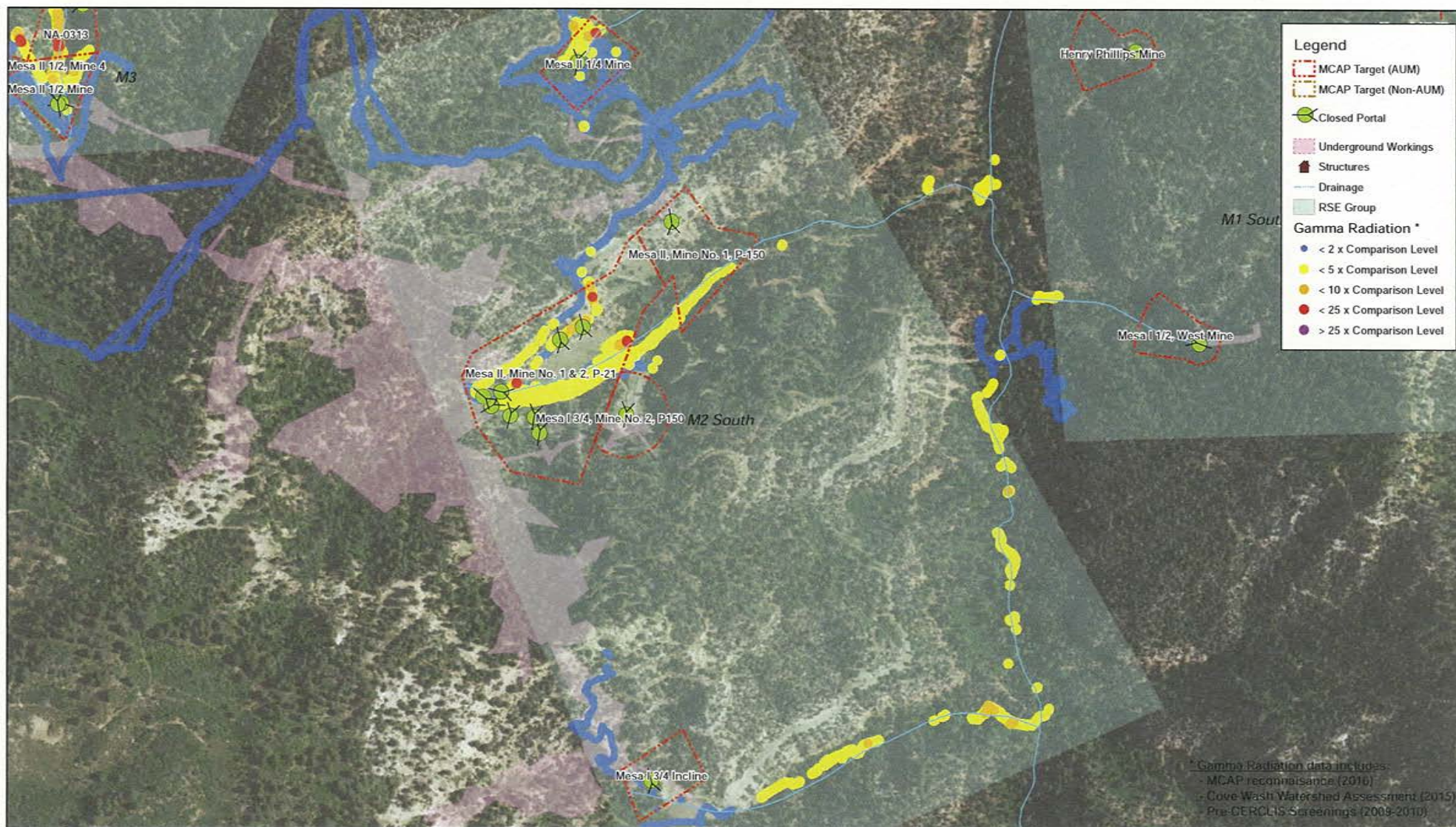












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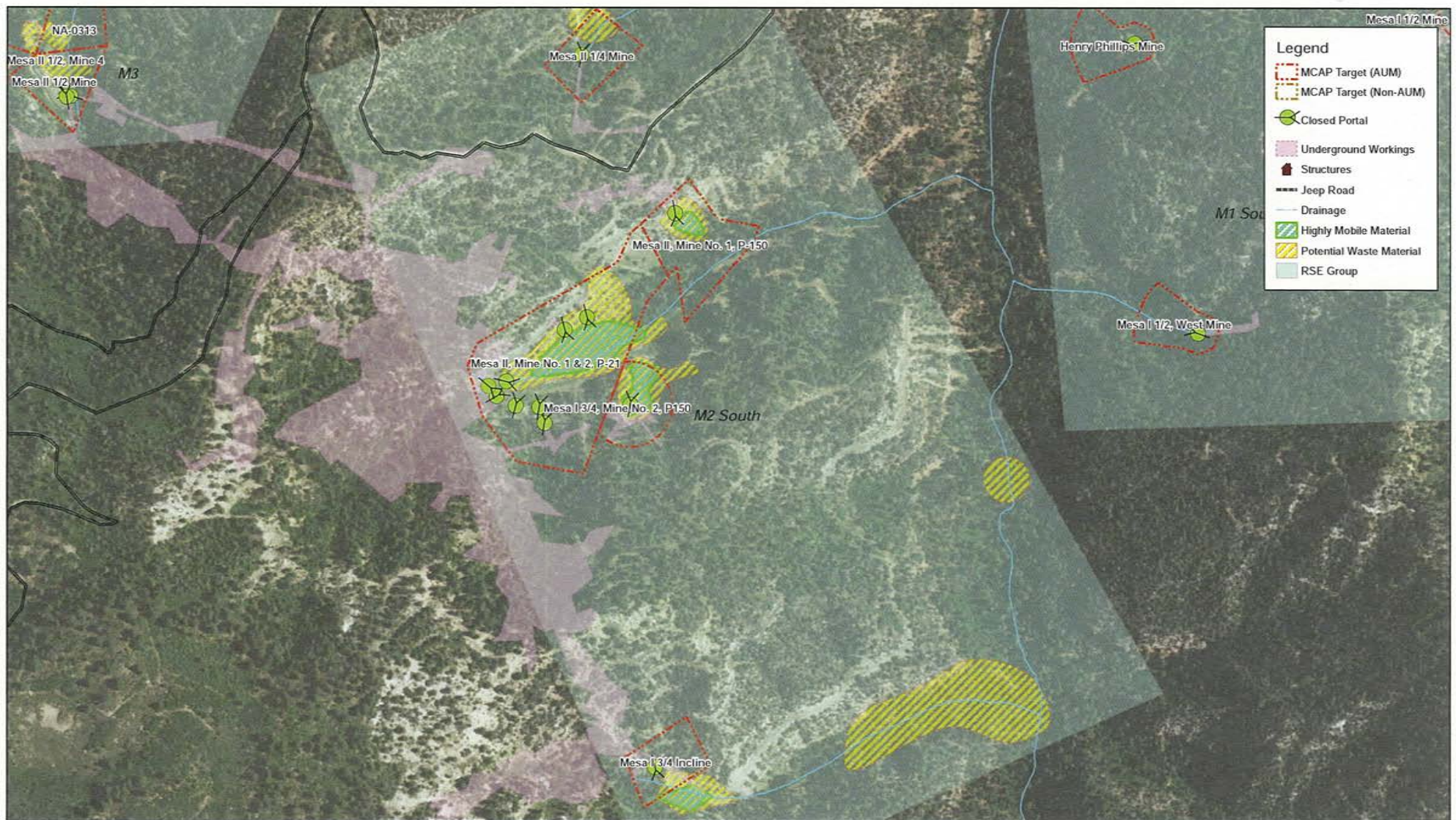


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**Figure 13 B**  
M2 South Removal Evaluation Group - Elevated Gamma Radiation  
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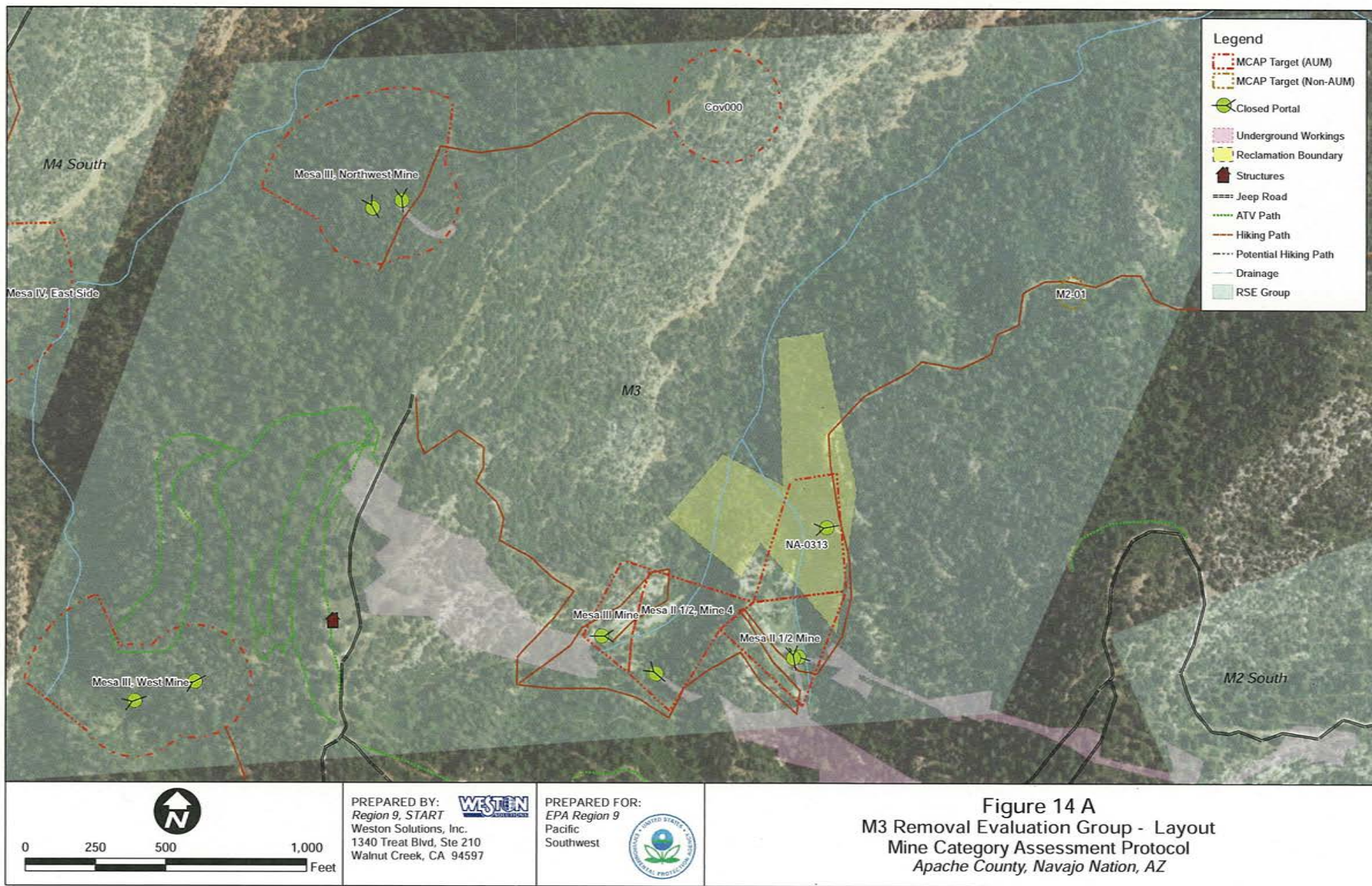


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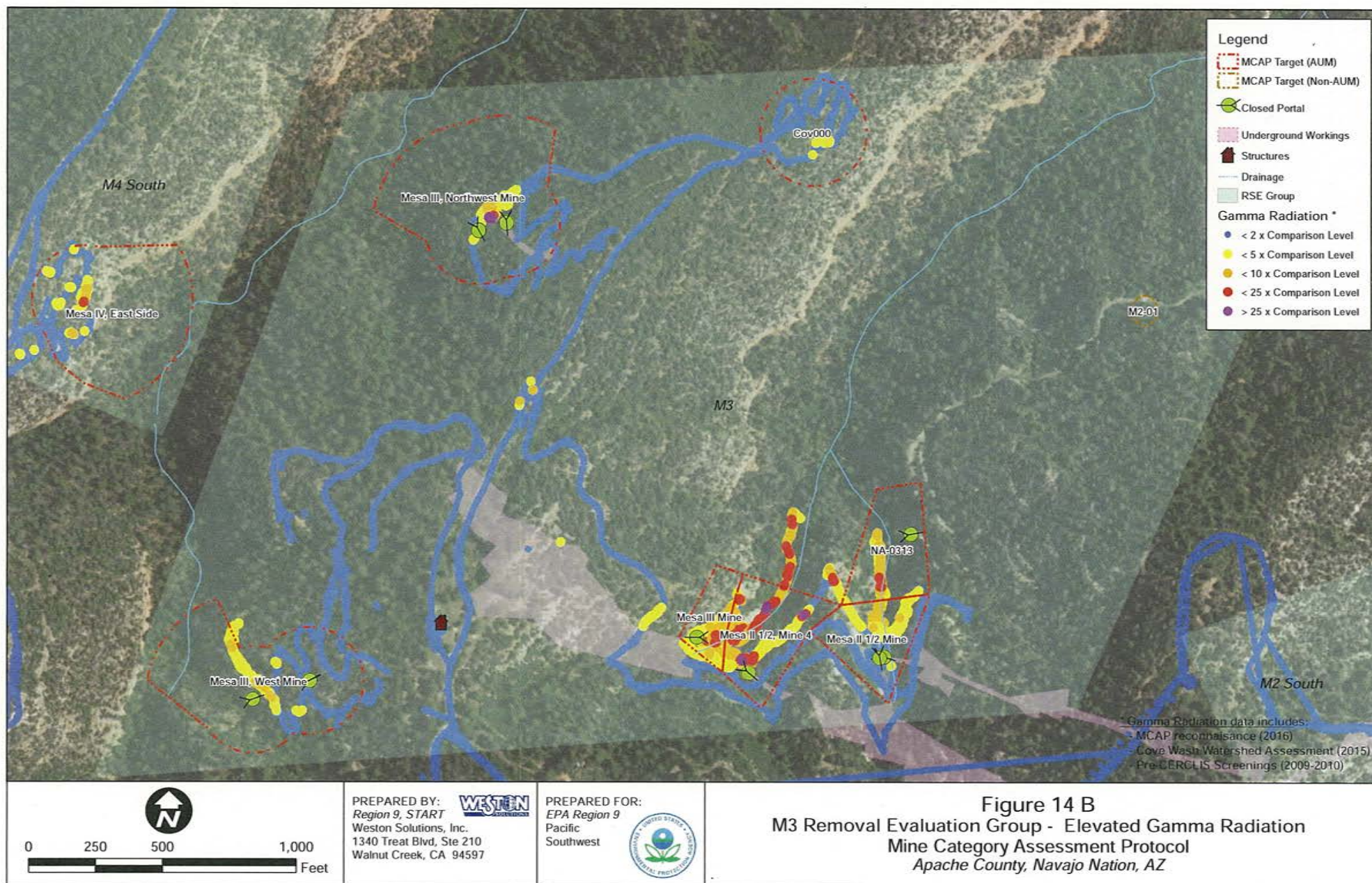


**Figure 13 C**  
M2 South Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ

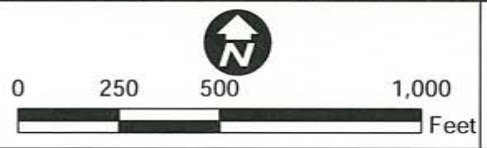
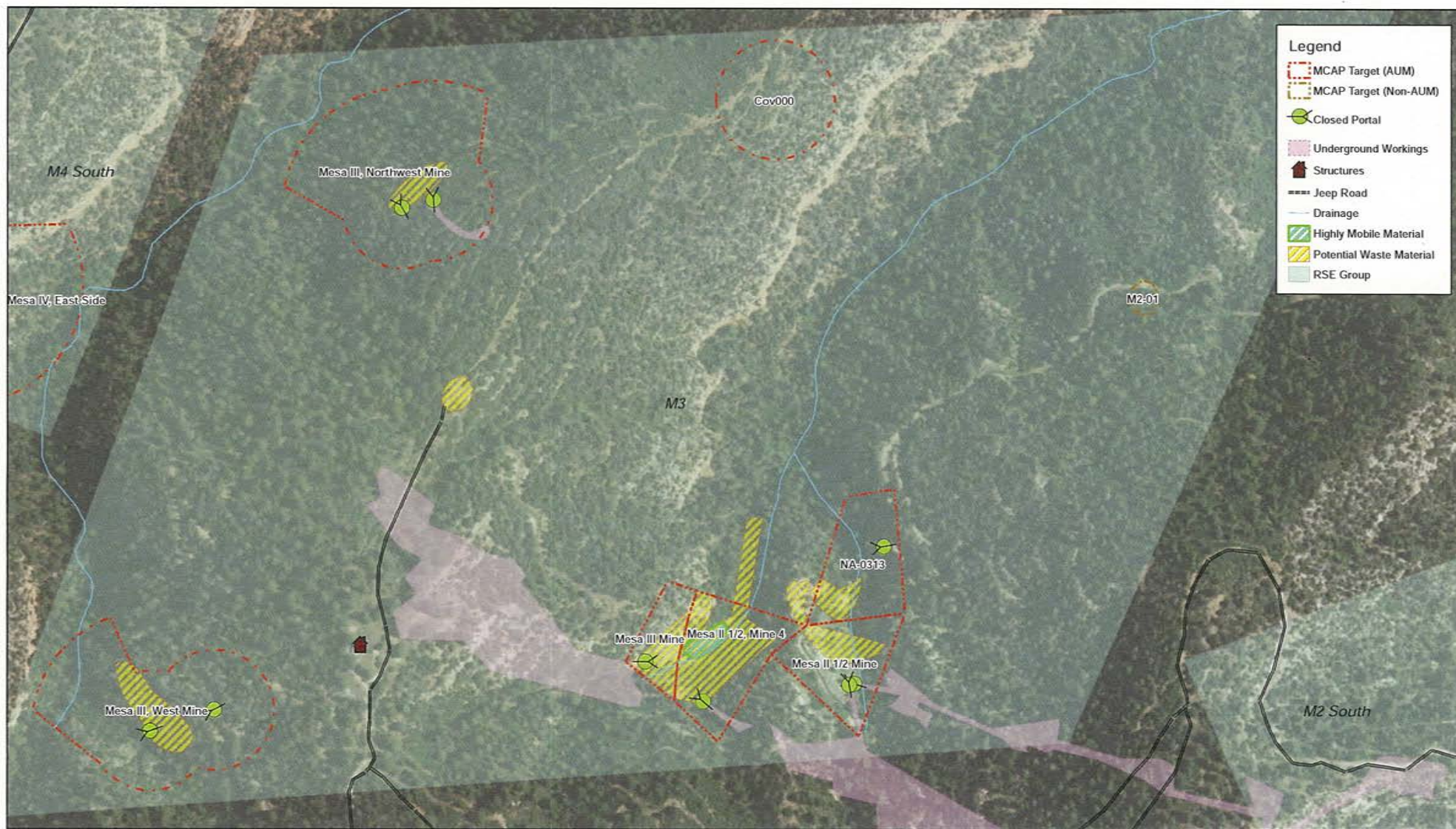










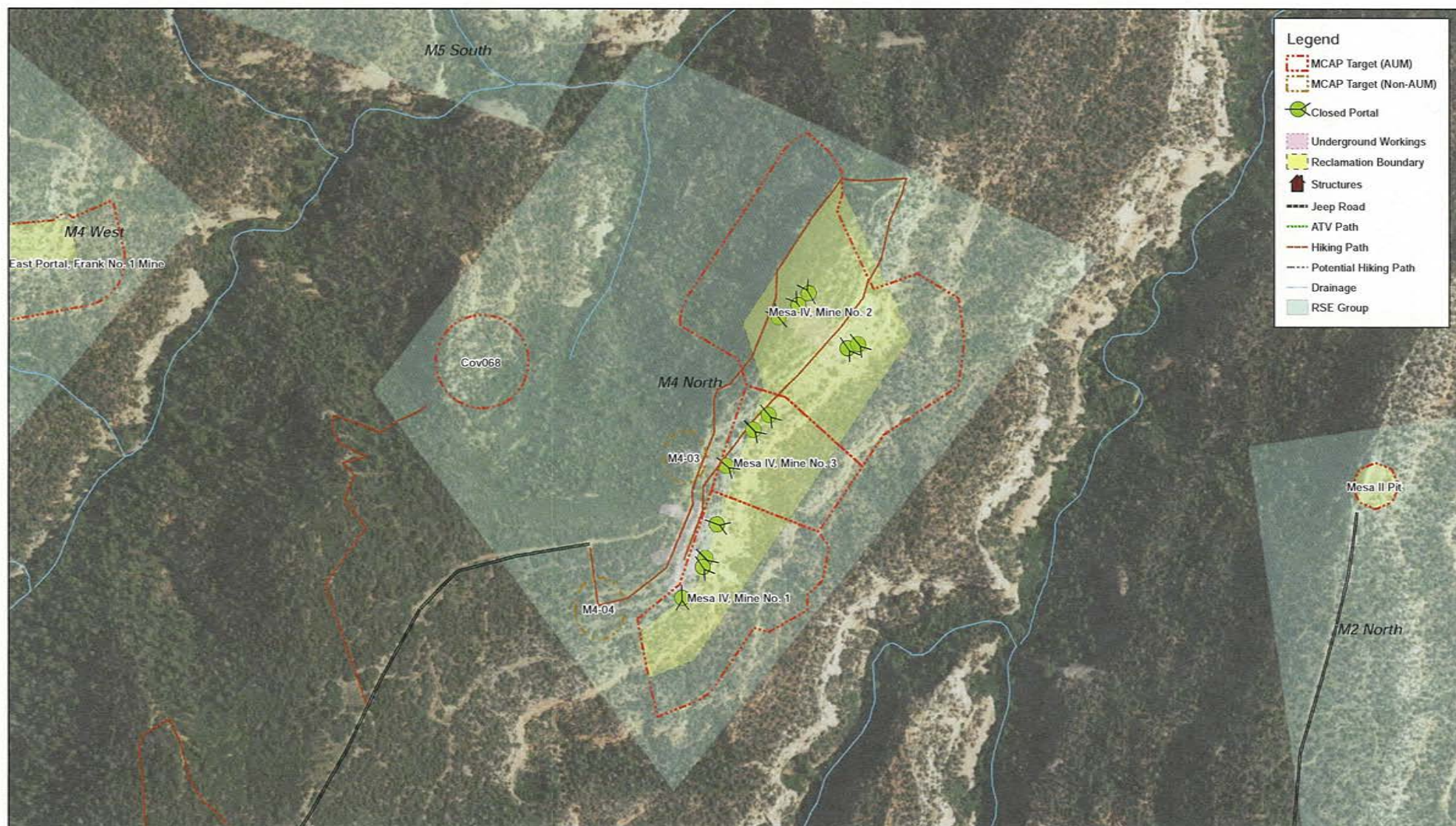


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**Figure 14 C**  
M3 Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
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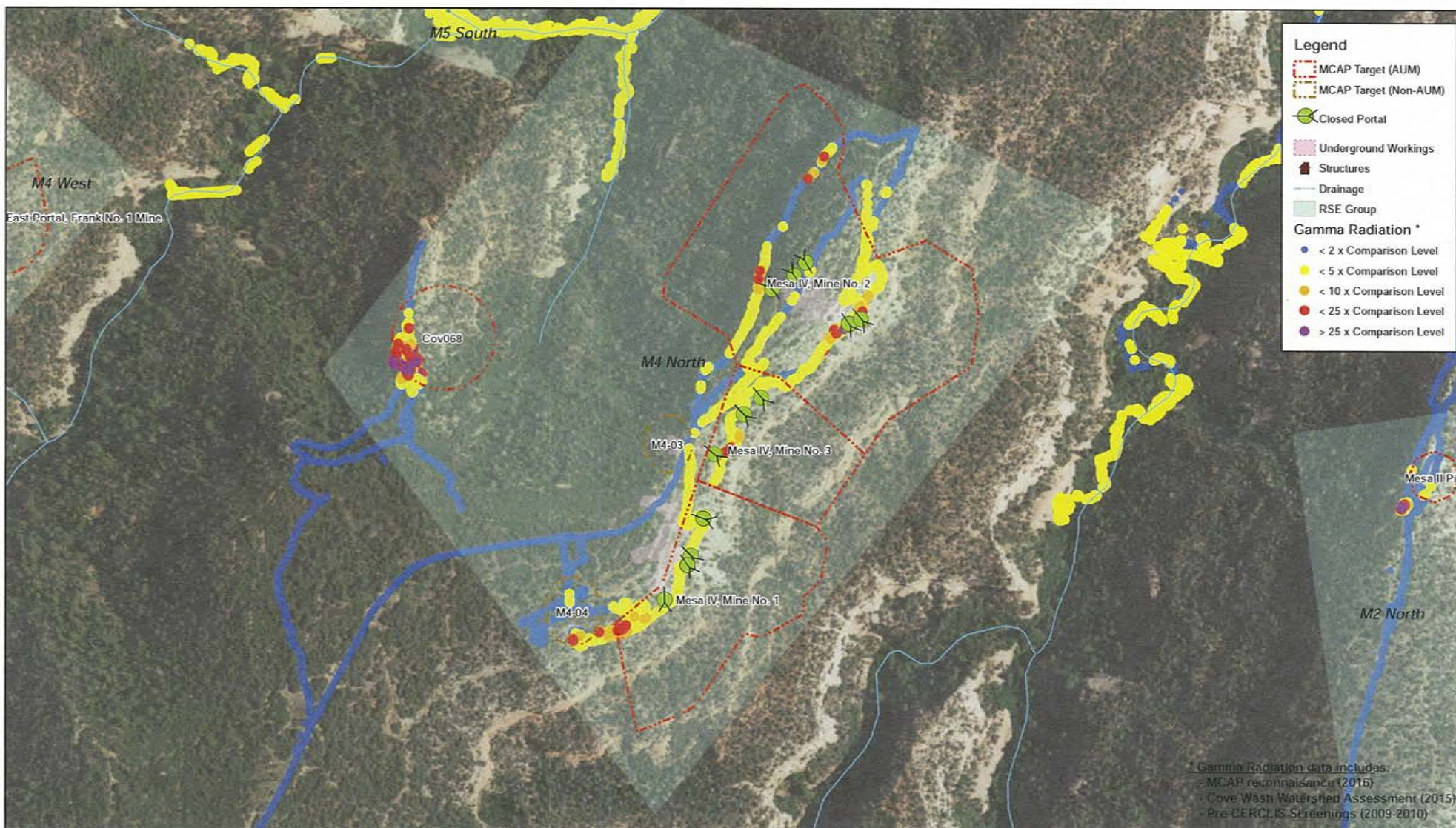


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**Figure 15 A**  
**M4 North Removal Evaluation Group - Layout**  
**Mine Category Assessment Protocol**  
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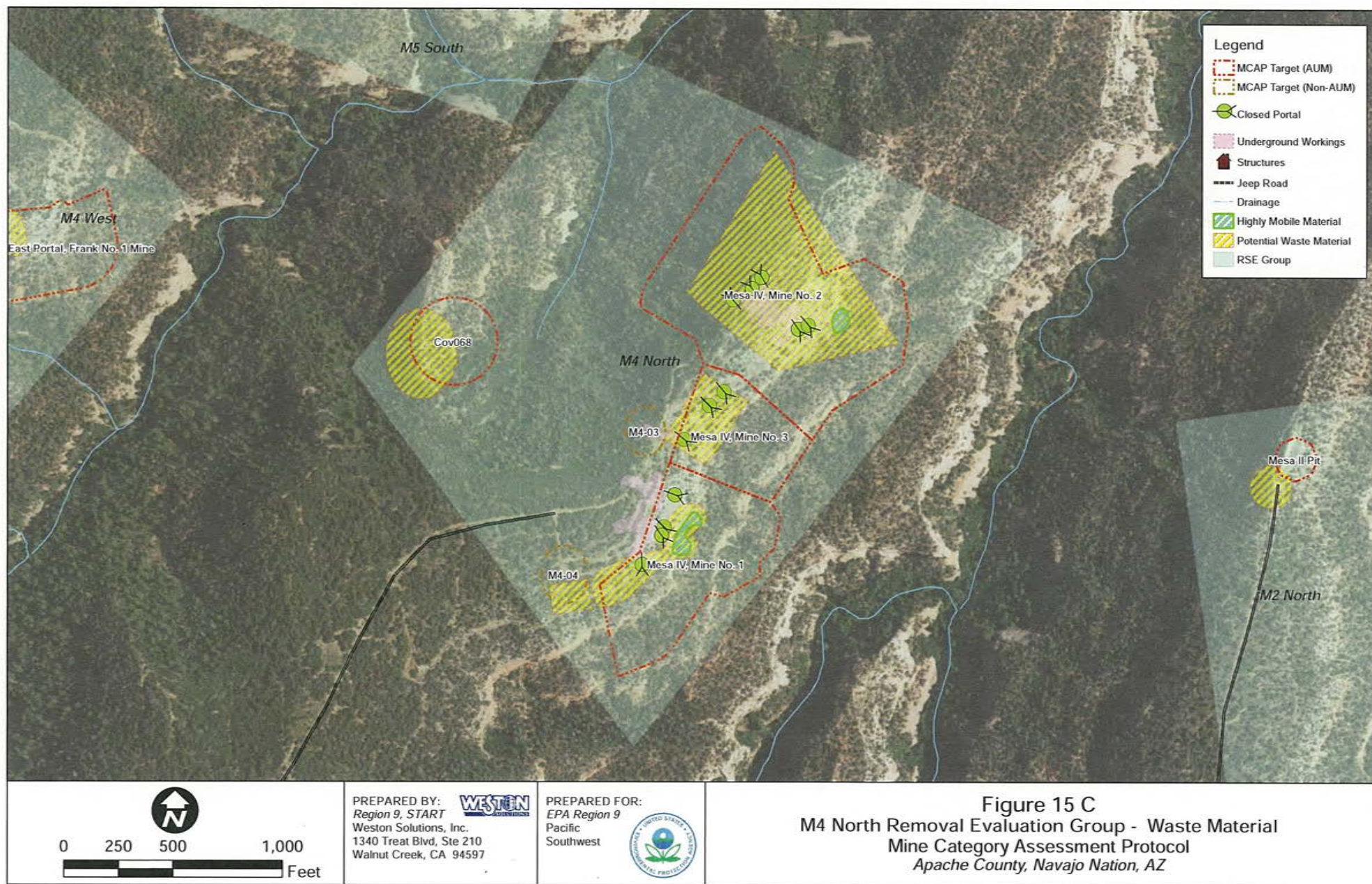


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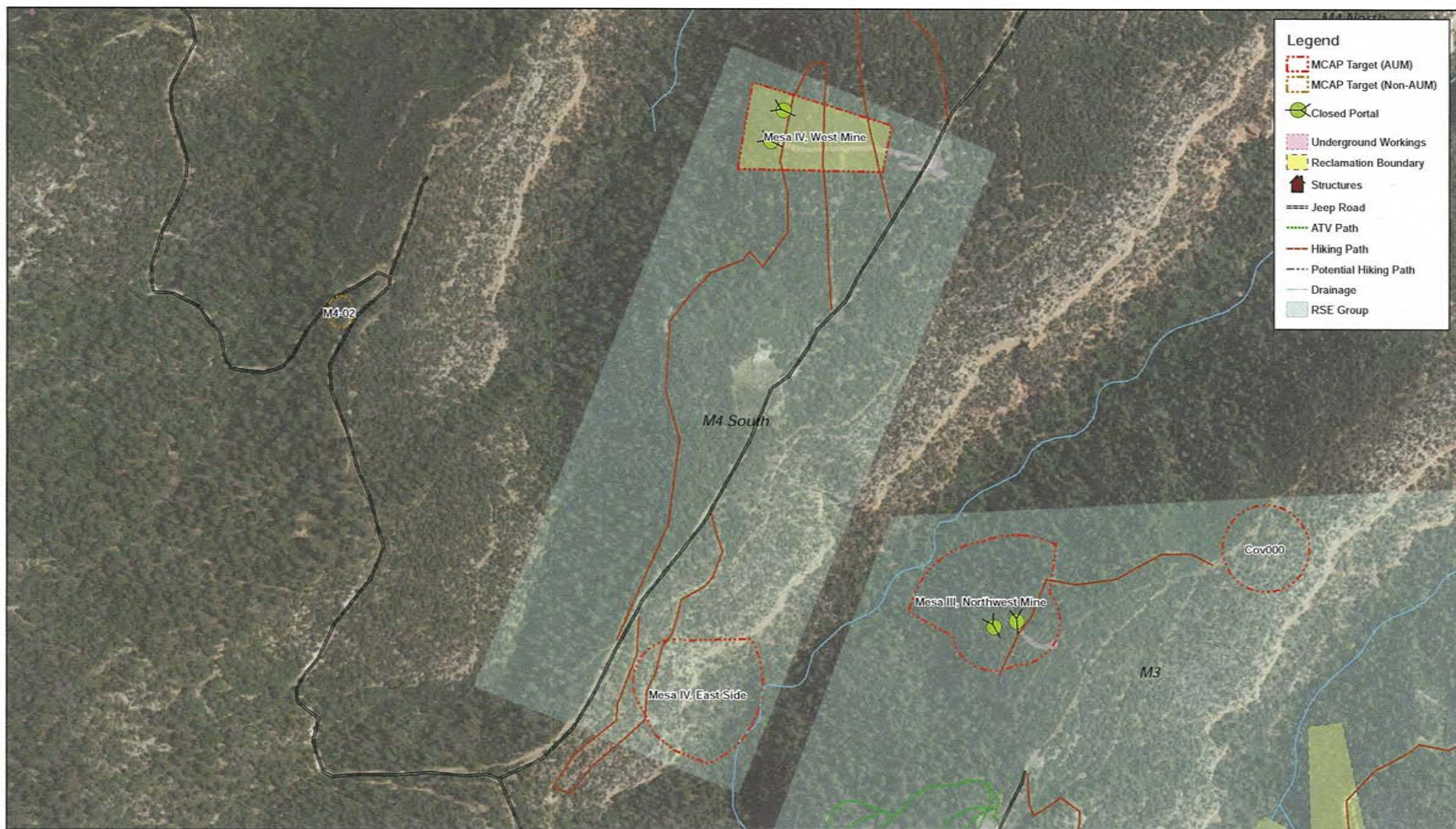


**Figure 15 B**  
**M4 North Removal Evaluation Group - Elevated Gamma Radiation**  
**Mine Category Assessment Protocol**  
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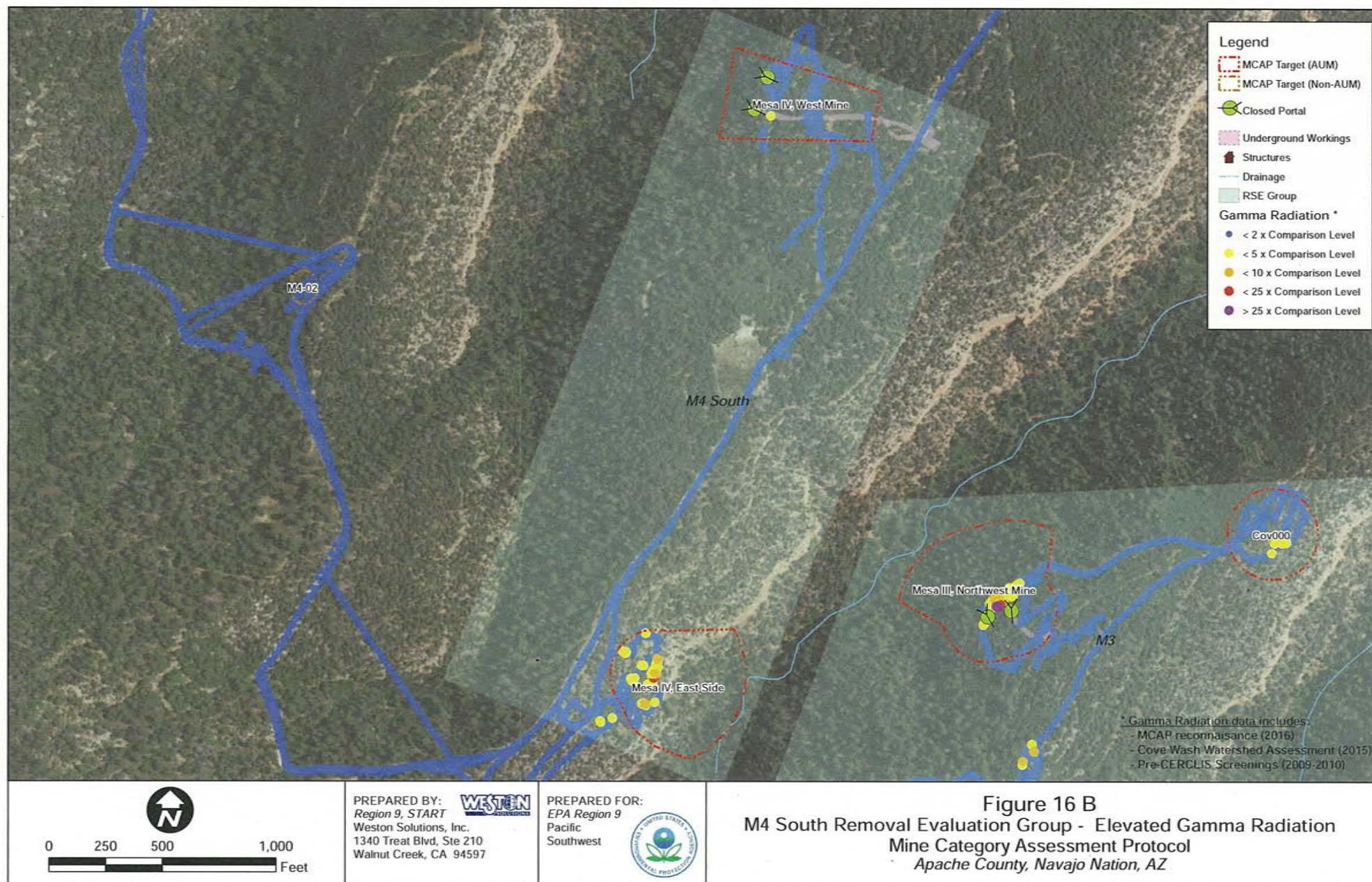


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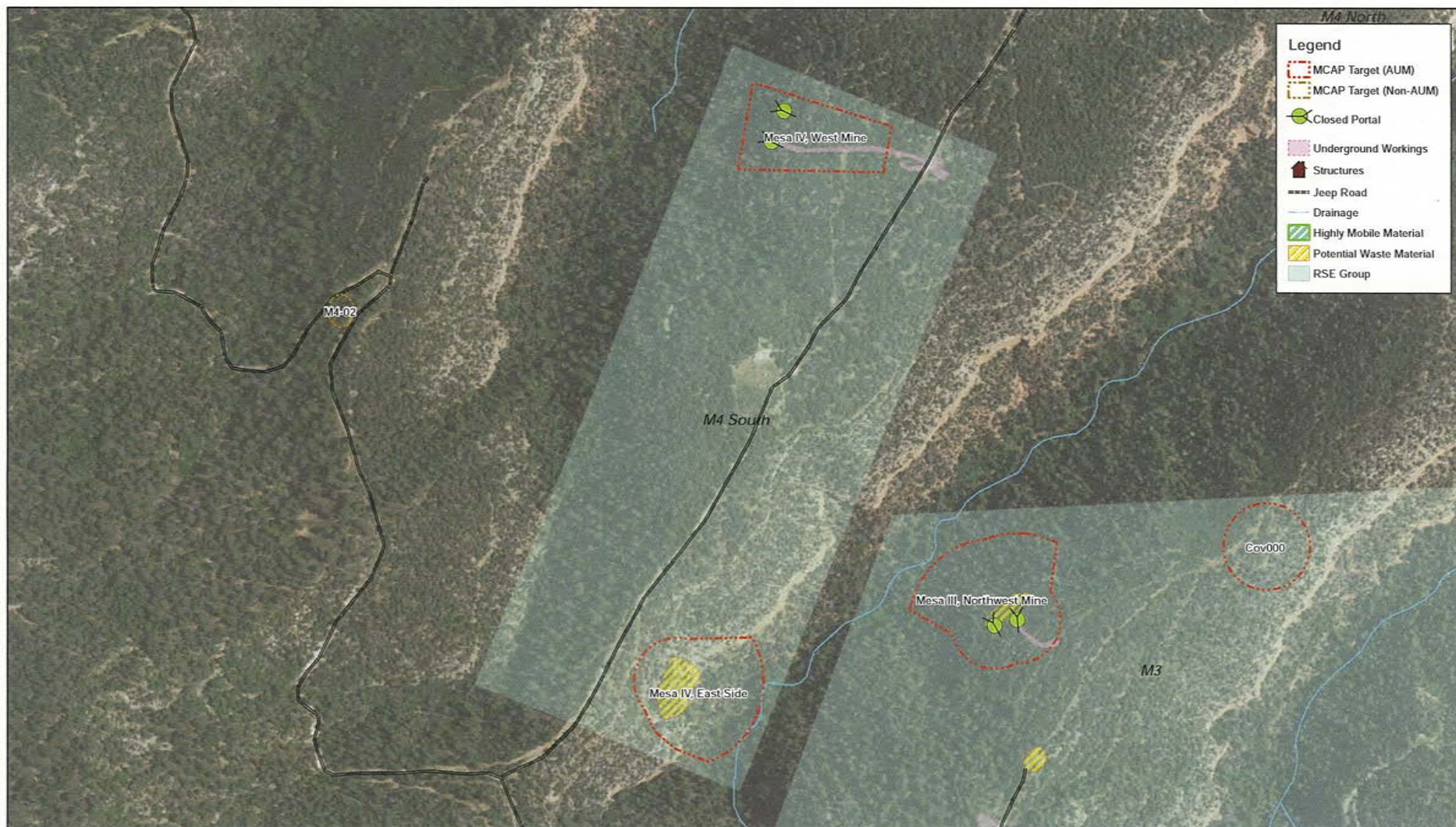


Figure 16 A  
M4 South Removal Evaluation Group - Layout  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ









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**Figure 16 C**  
M4 South Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ





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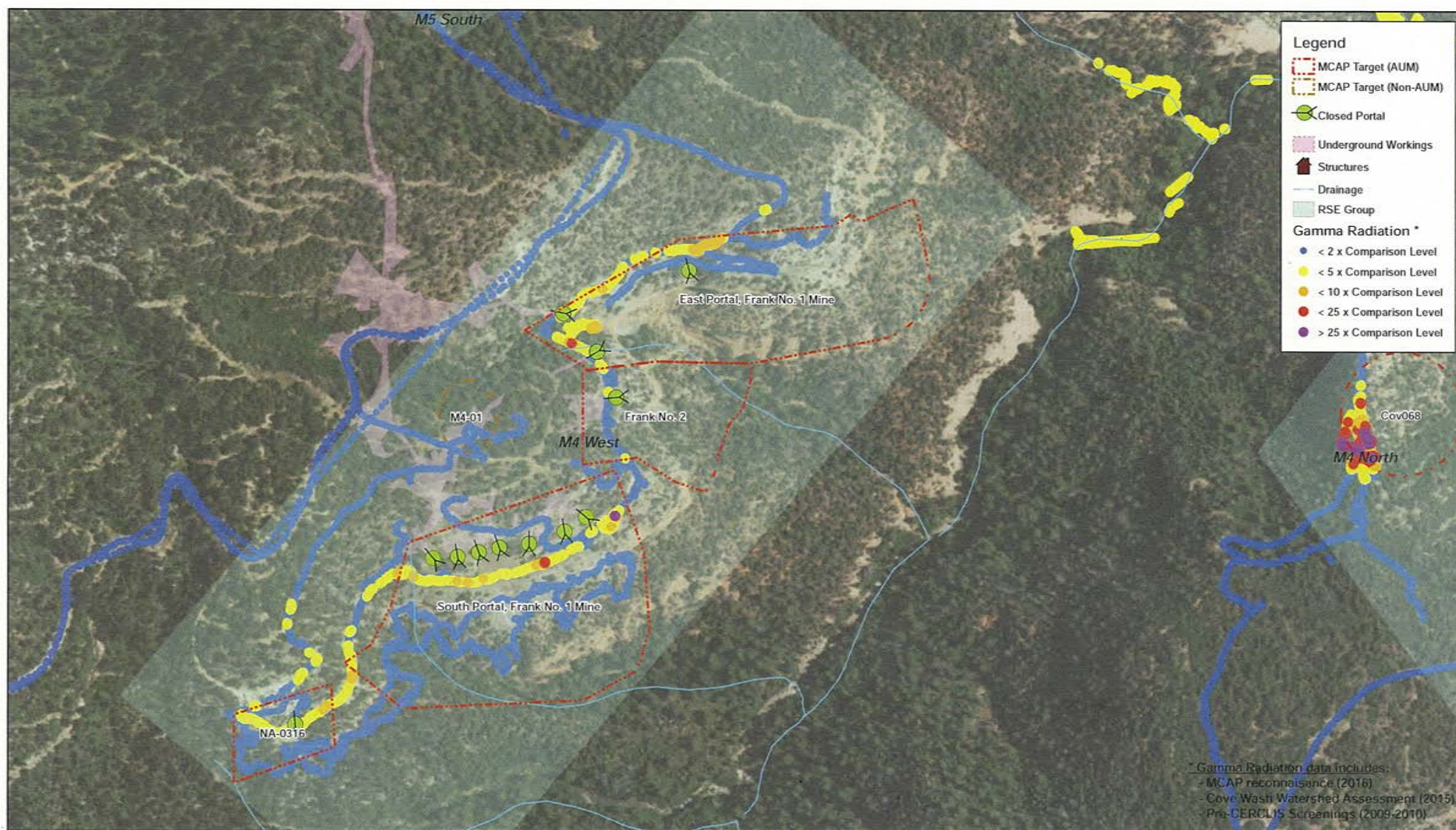


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**Figure 17 A**  
**M4 West Removal Evaluation Group - Layout**  
**Mine Category Assessment Protocol**  
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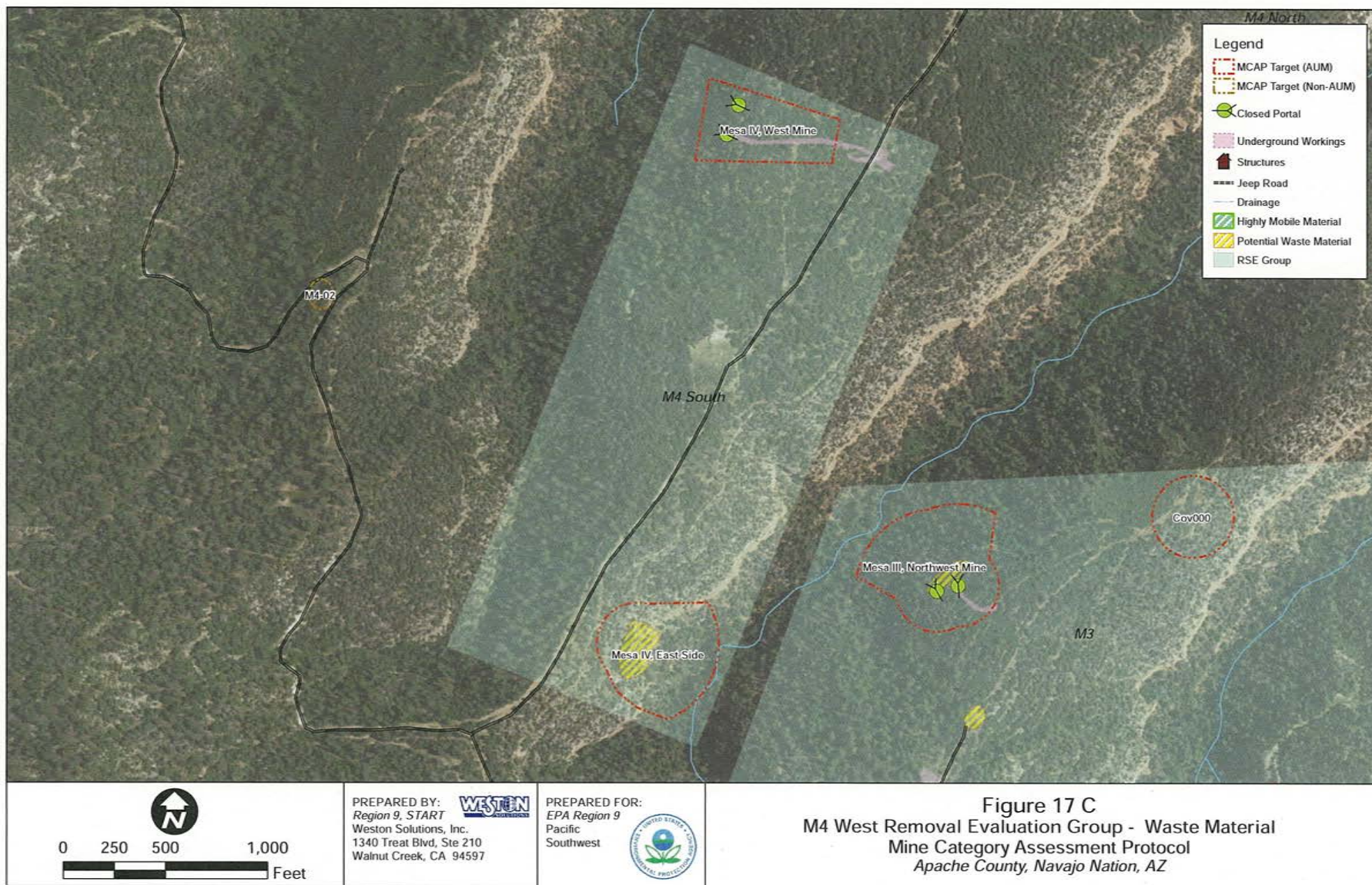


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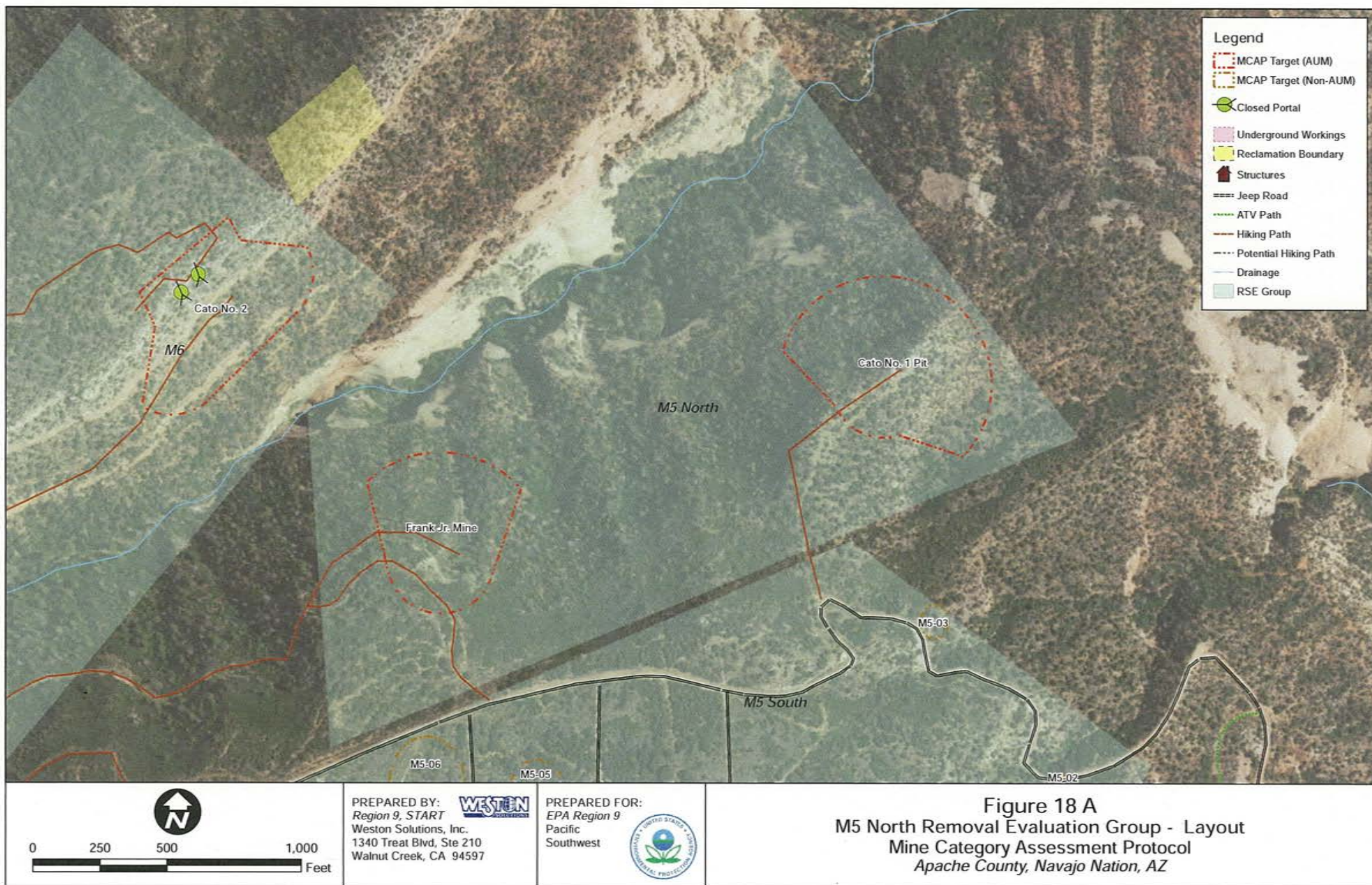


**Figure 17 B**  
M4 West Removal Evaluation Group - Elevated Gamma Radiation  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ

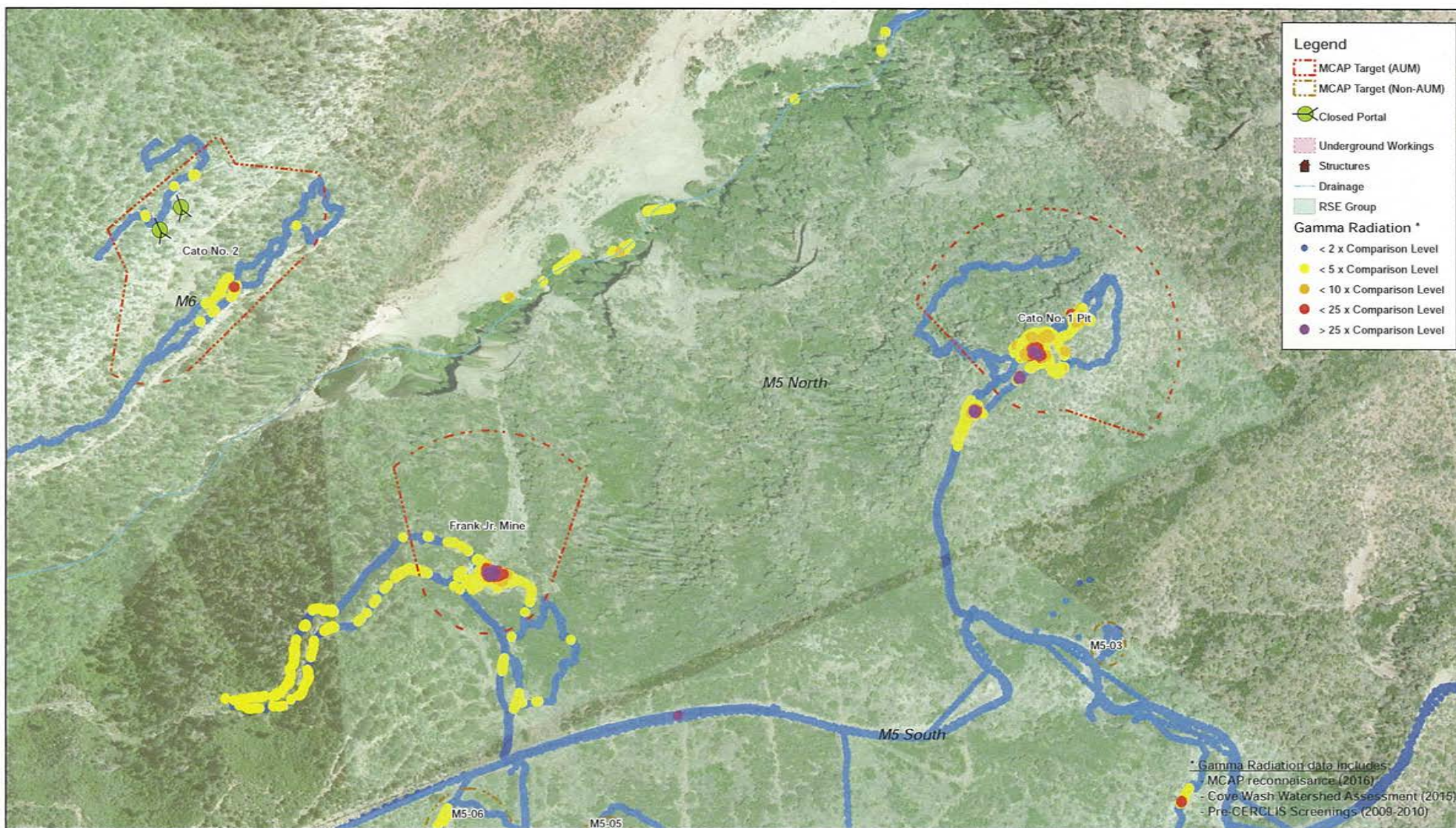












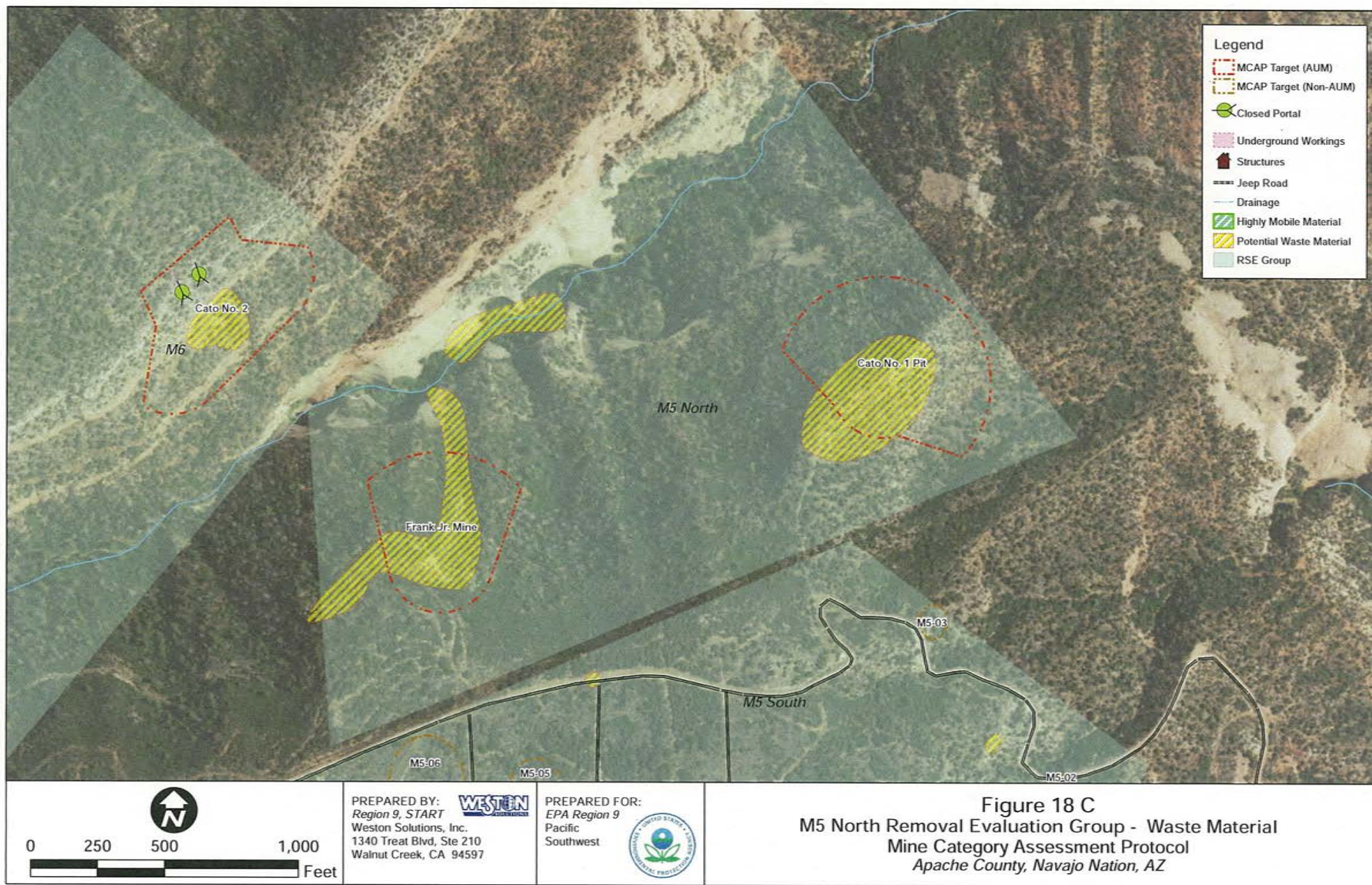
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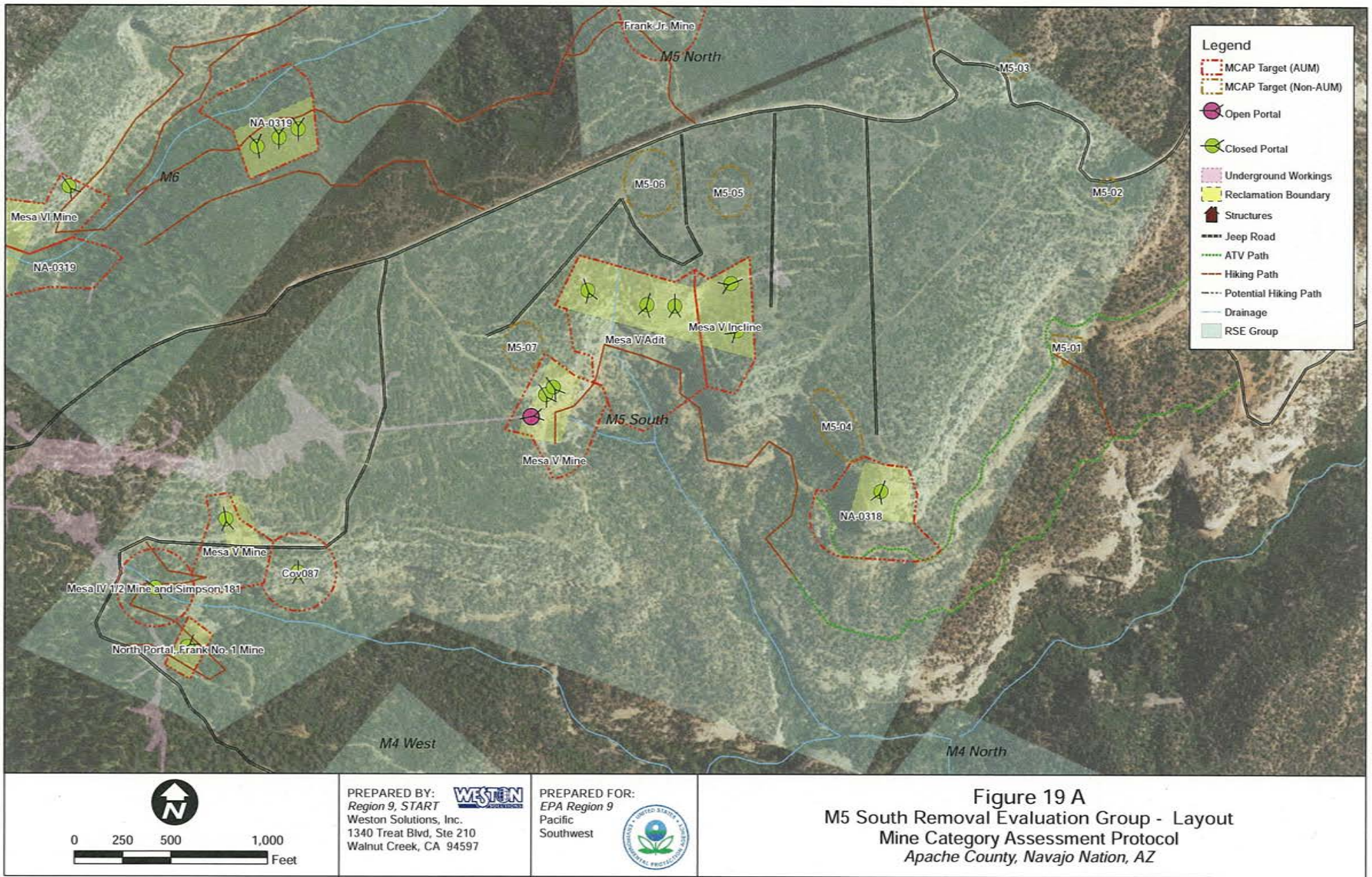


**Figure 18 B**  
 M5 North Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ

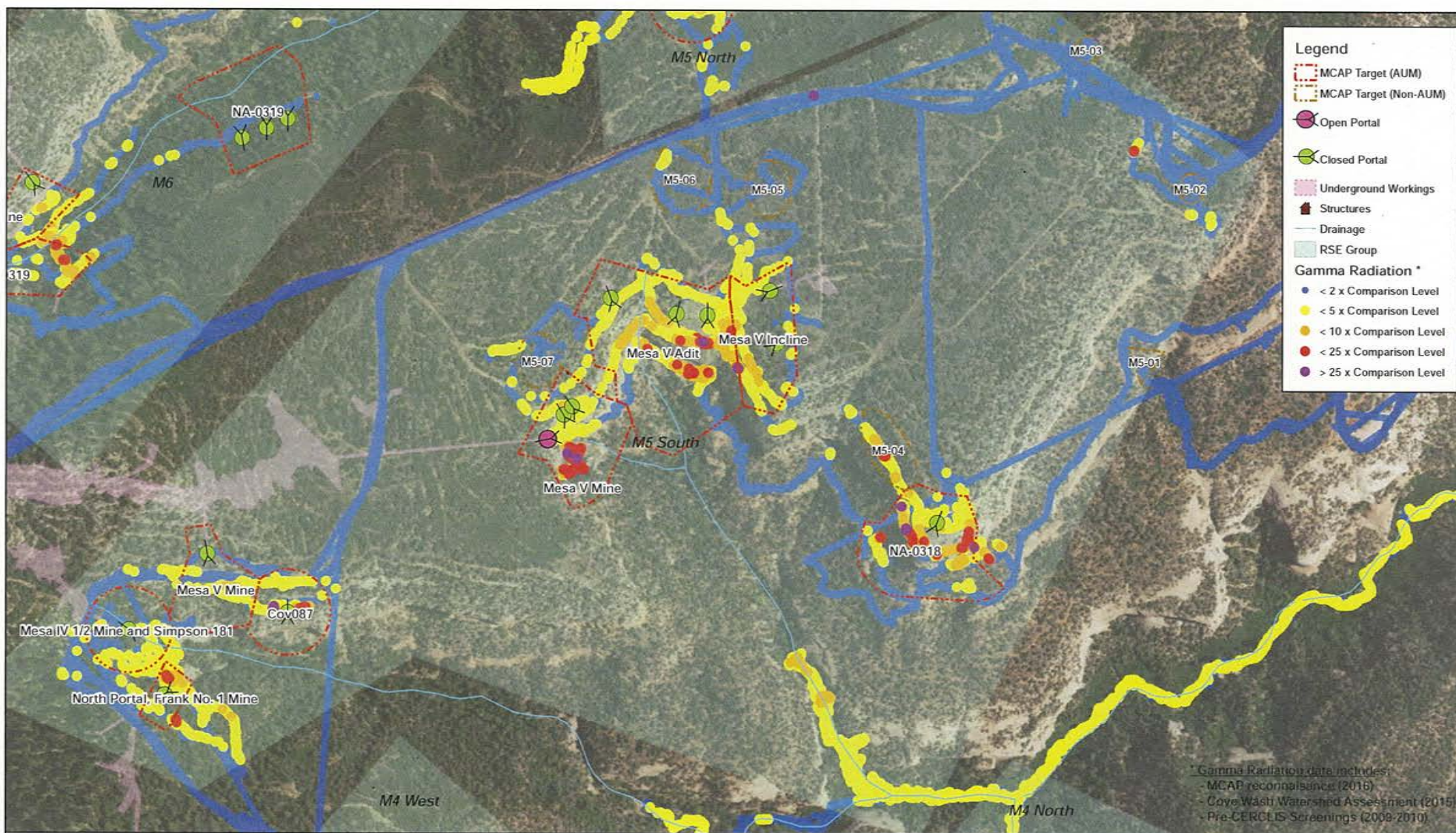












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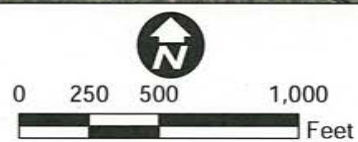
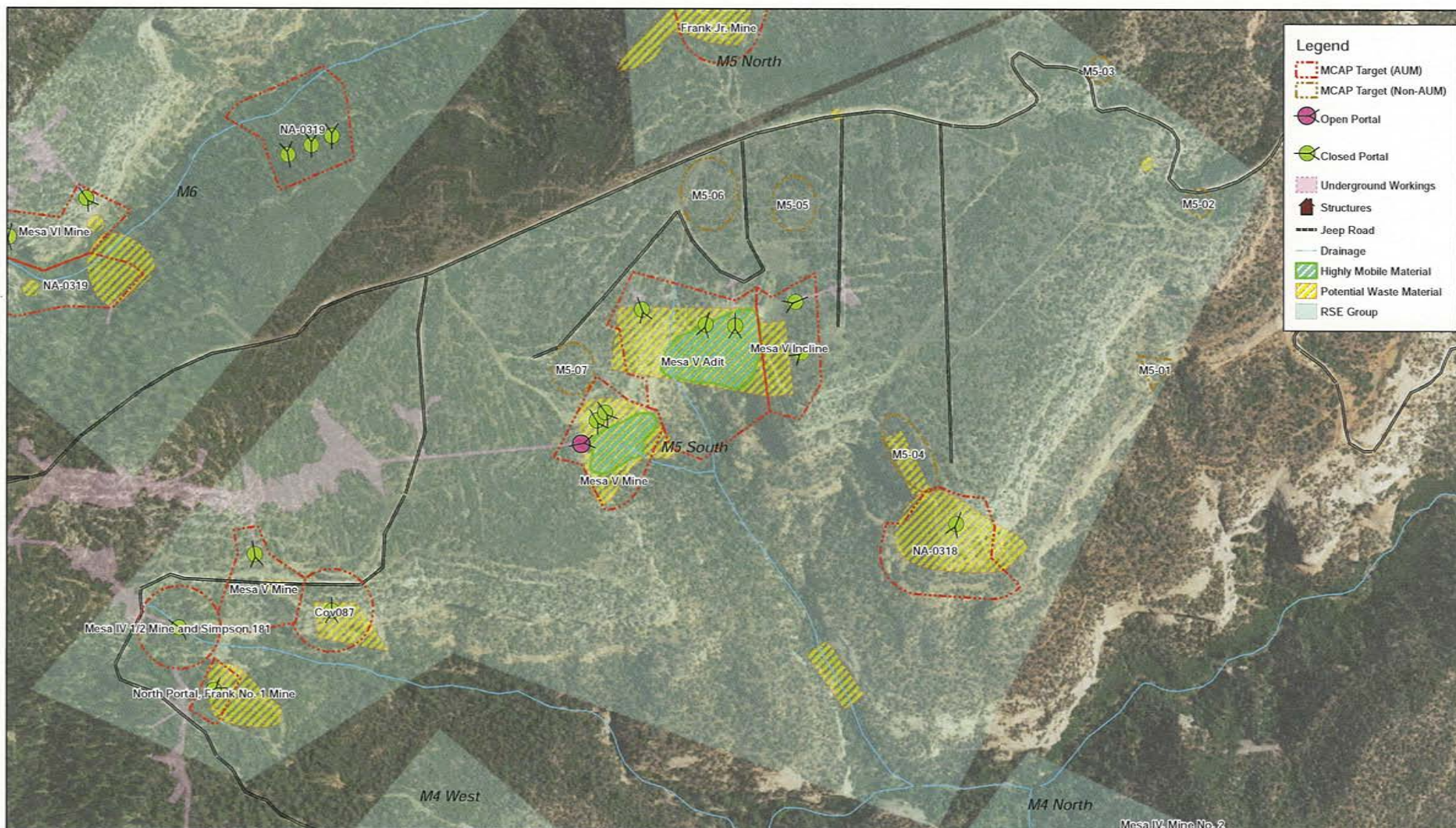


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**Figure 19 B**  
M5 South Removal Evaluation Group - Elevated Gamma Radiation  
Mine Category Assessment Protocol  
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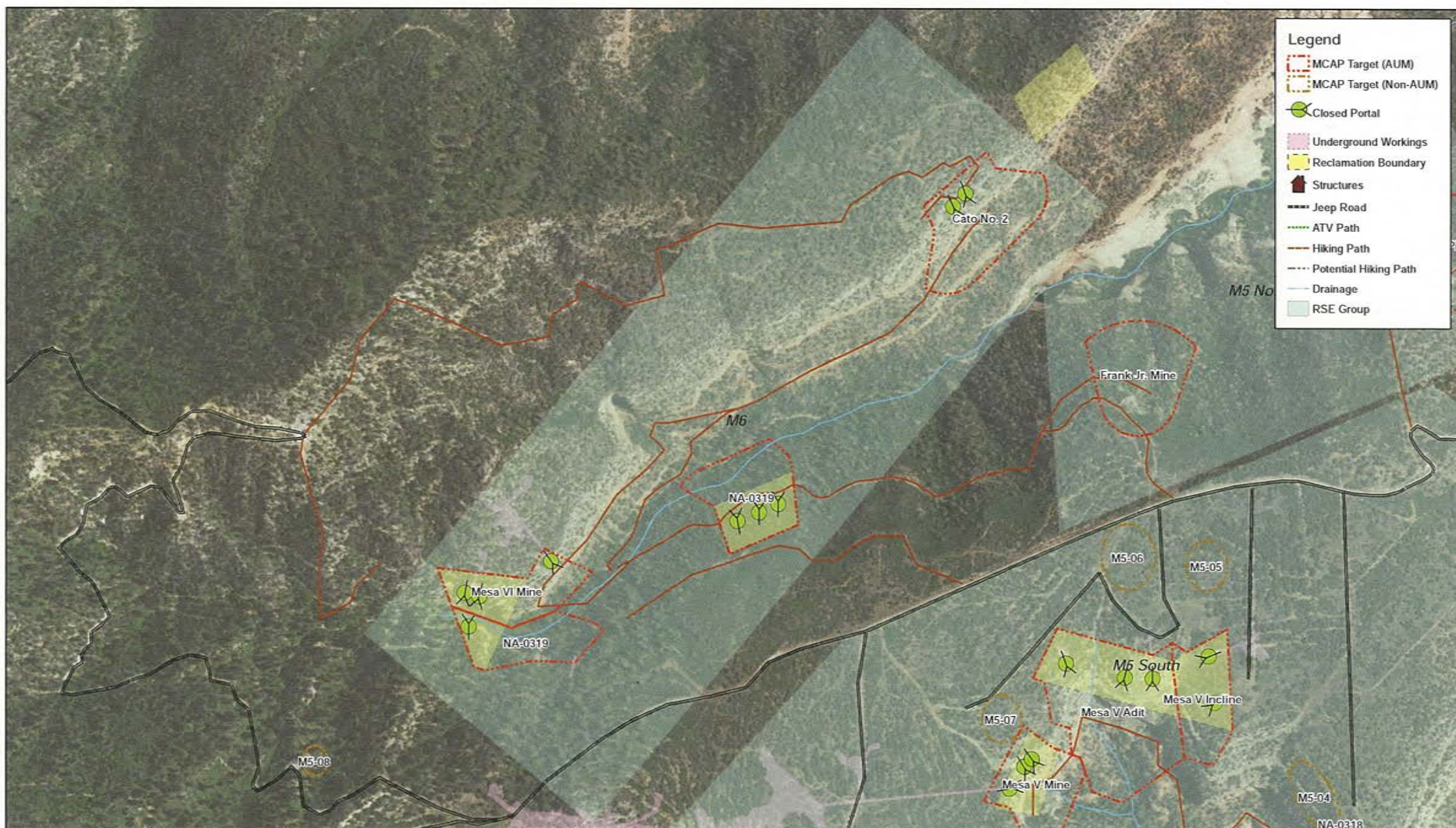


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**Figure 19 C**  
M5 South Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ





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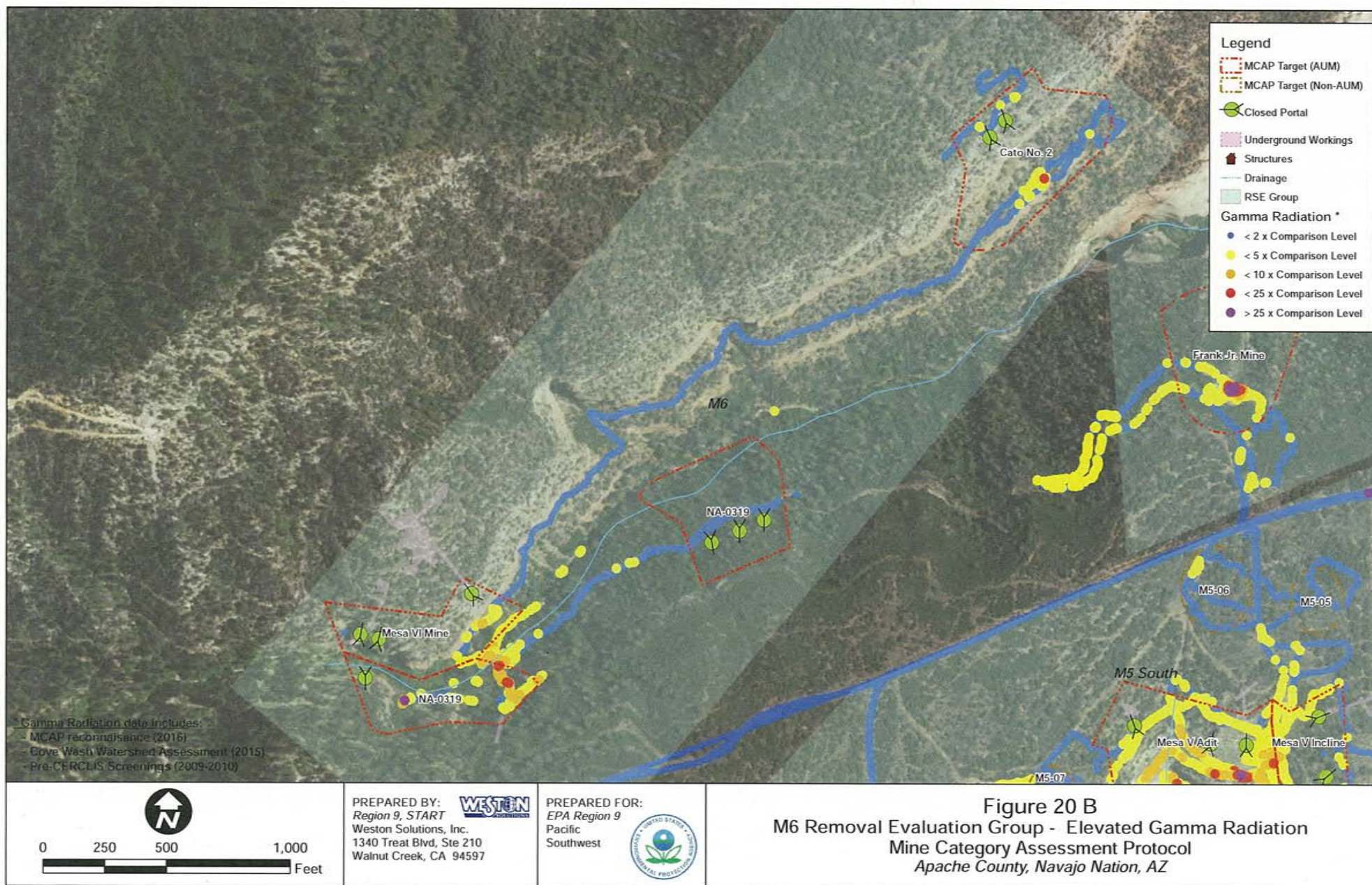


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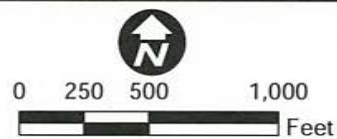
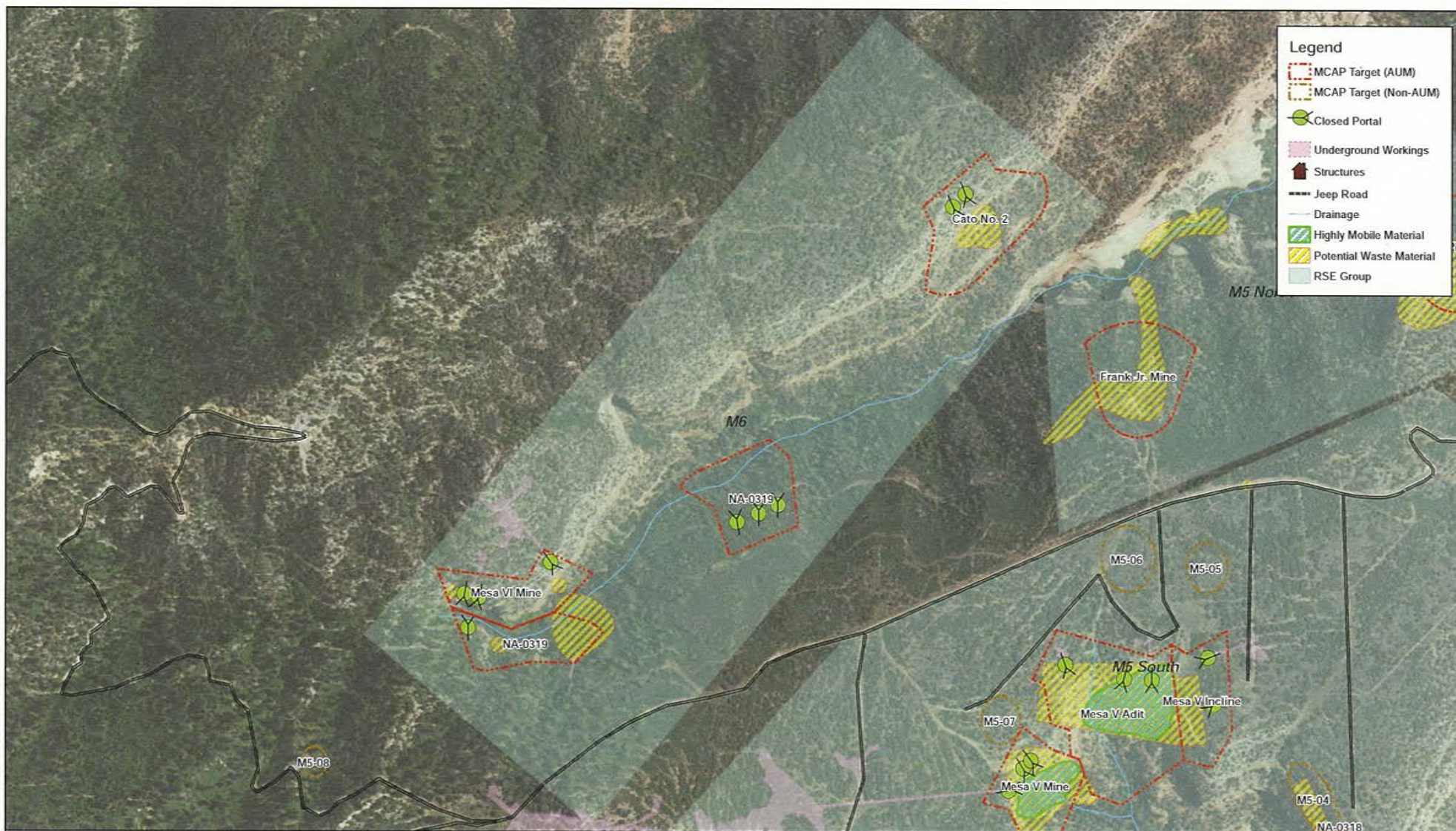


**Figure 20 A**  
**M6 Removal Evaluation Group - Layout**  
**Mine Category Assessment Protocol**  
**Apache County, Navajo Nation, AZ**









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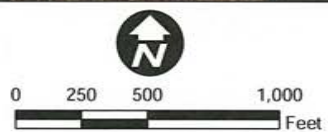


Figure 20 C  
M6 Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ





- Legend**
- MCAP Target (AUM)
  - MCAP Target (Non-AUM)
  - Closed Portal
  - Underground Workings
  - Reclamation Boundary
  - Structures
  - Jeep Road
  - ATV Path
  - Hiking Path
  - Potential Hiking Path
  - Drainage
  - RSE Group

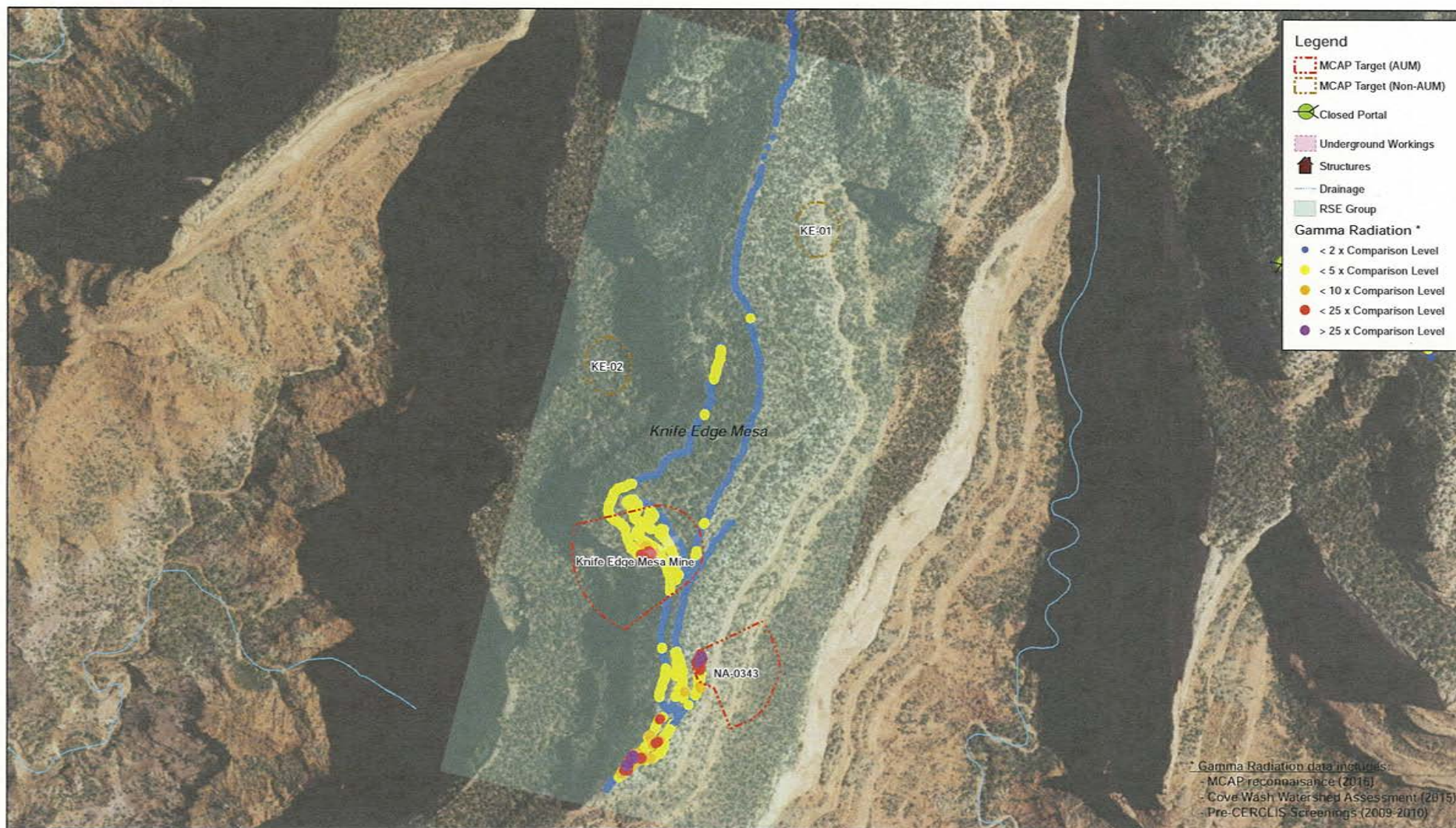


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**Figure 21 A**  
 Knife Edge Mesa Removal Evaluation Group - Layout  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ





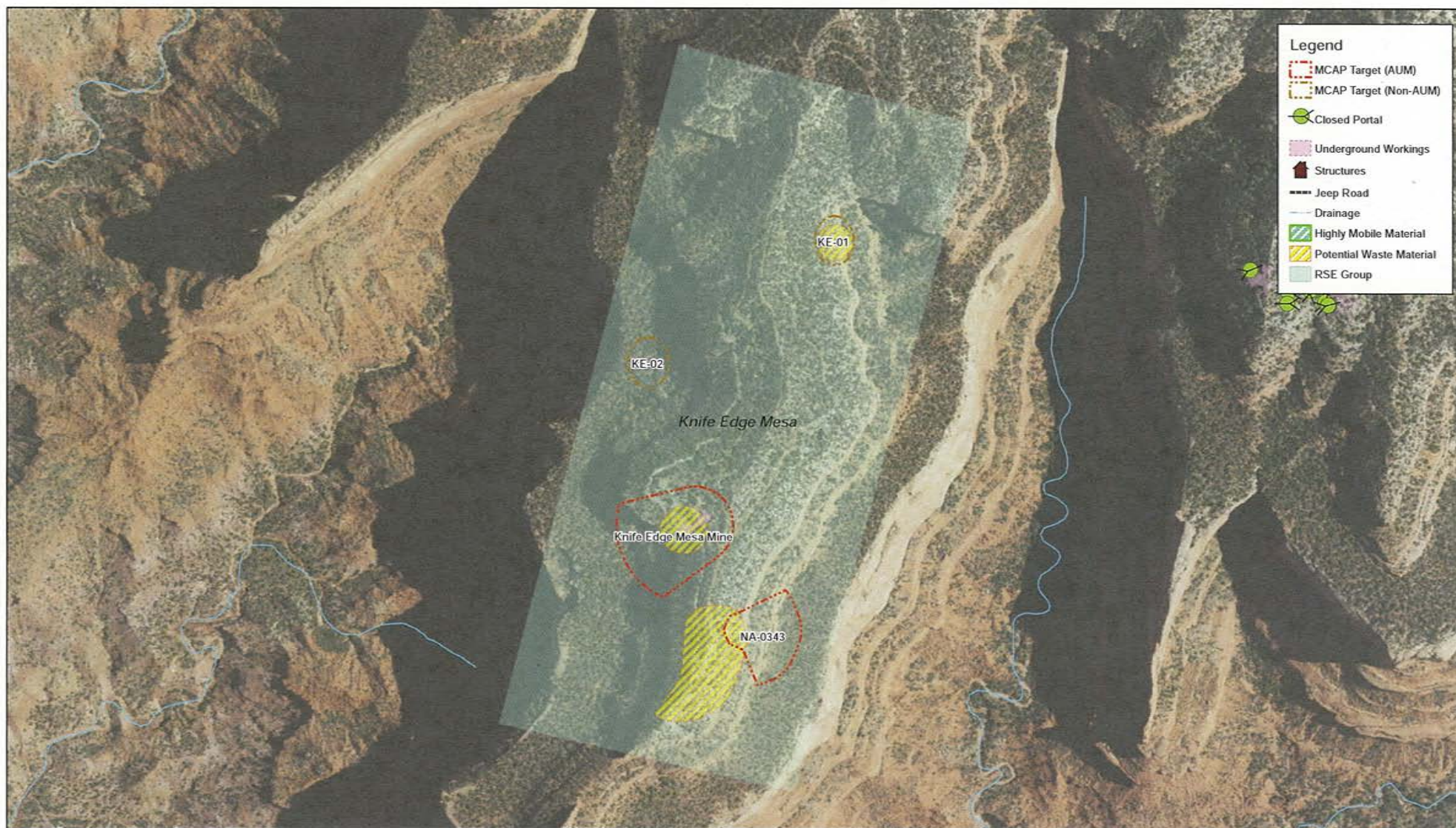
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**Figure 21 B**  
 Knife Edge Mesa Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ





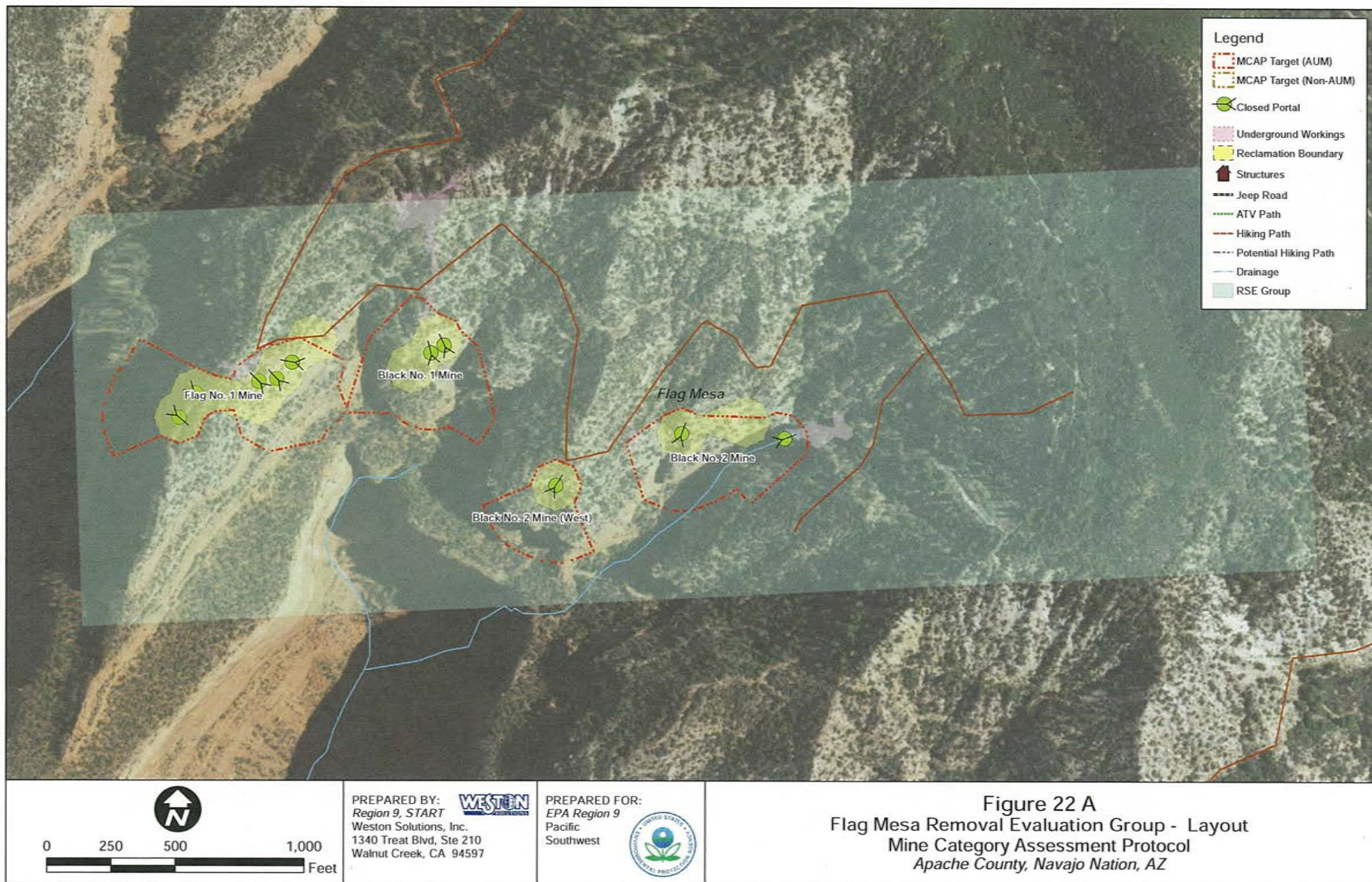
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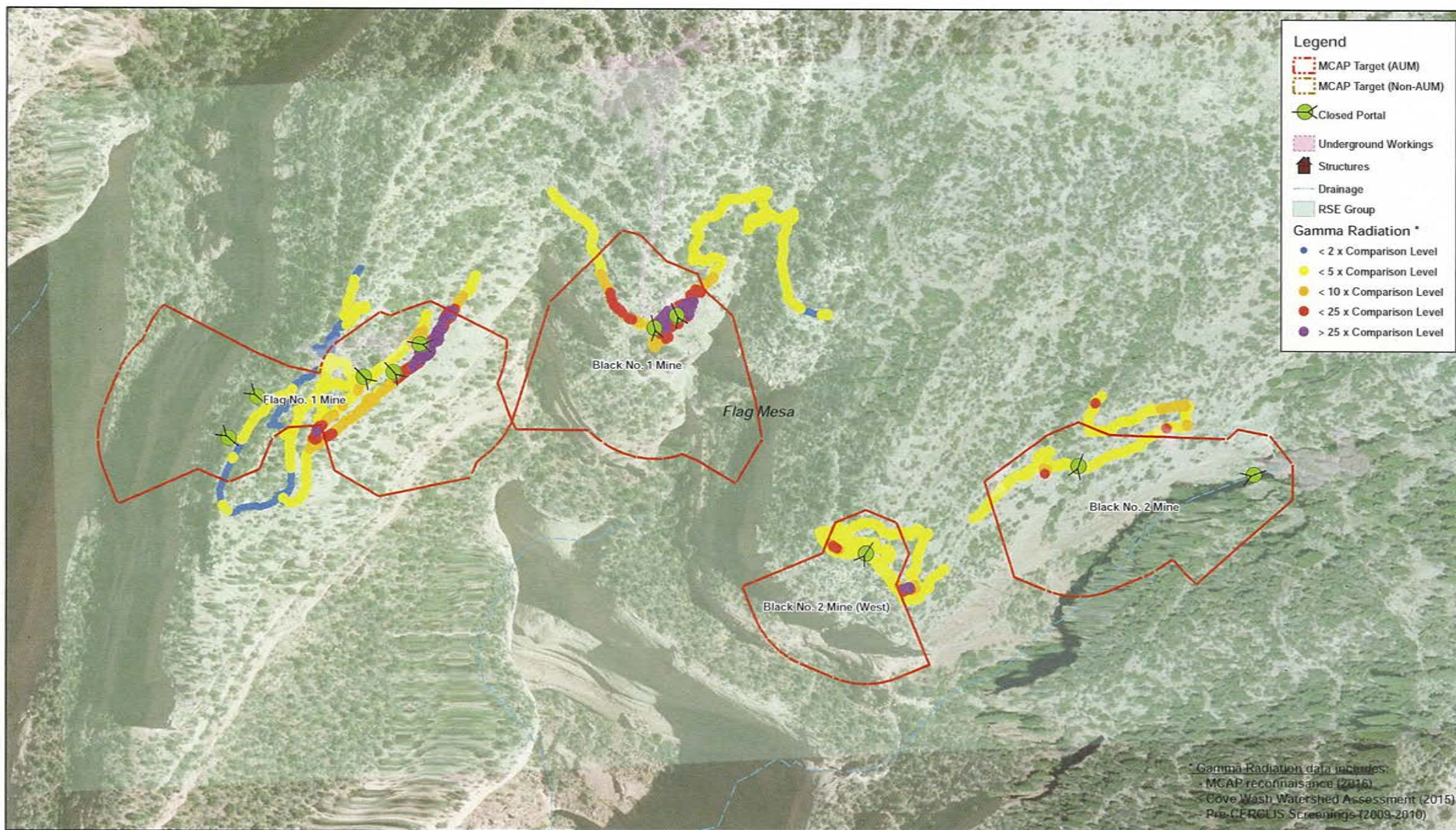


Figure 21 C  
Knife Edge Mesa Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ









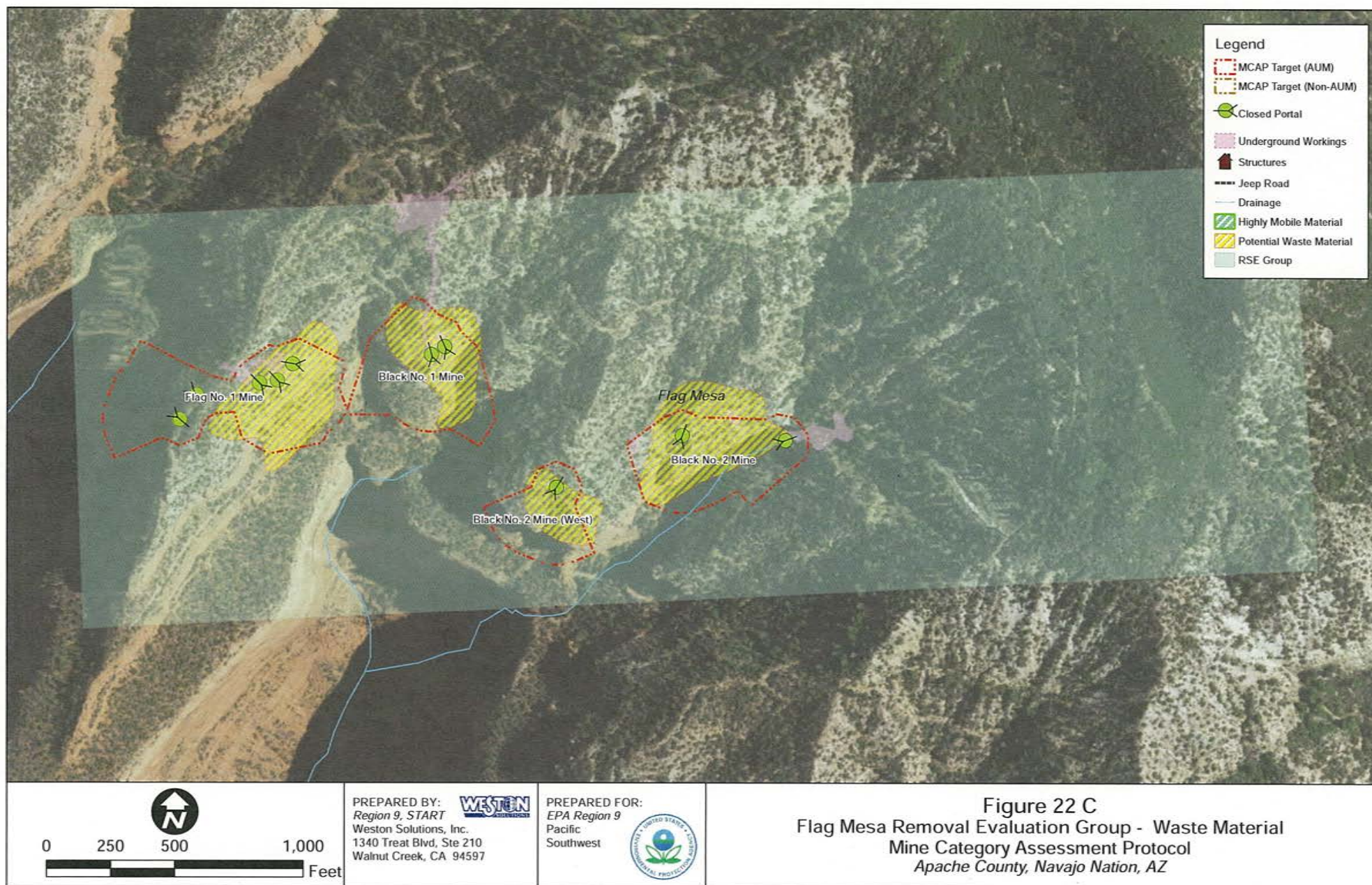
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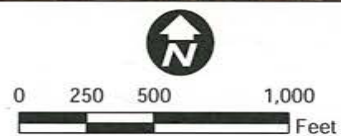
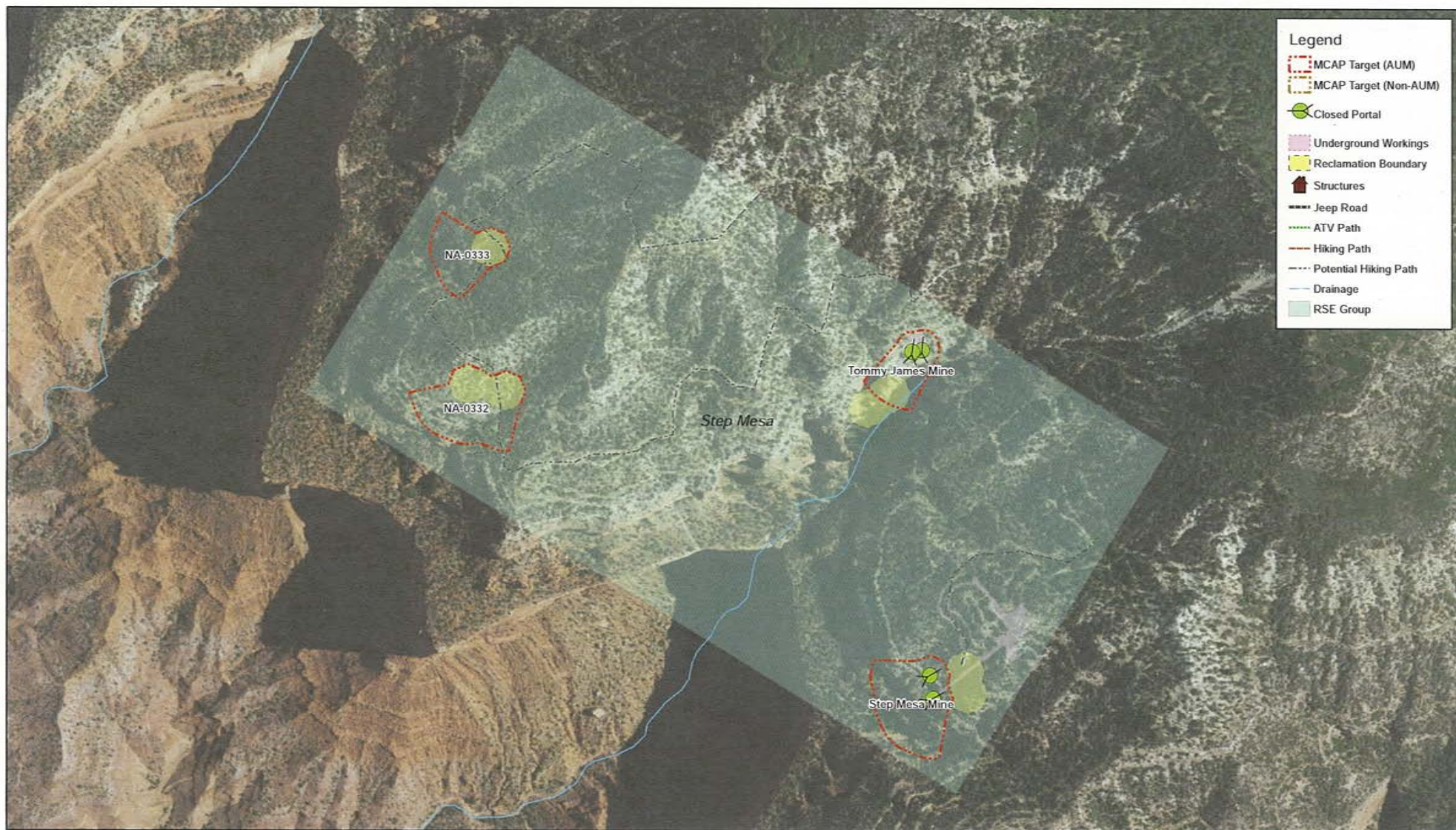


**Figure 22 B**  
 Flag Mesa Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ









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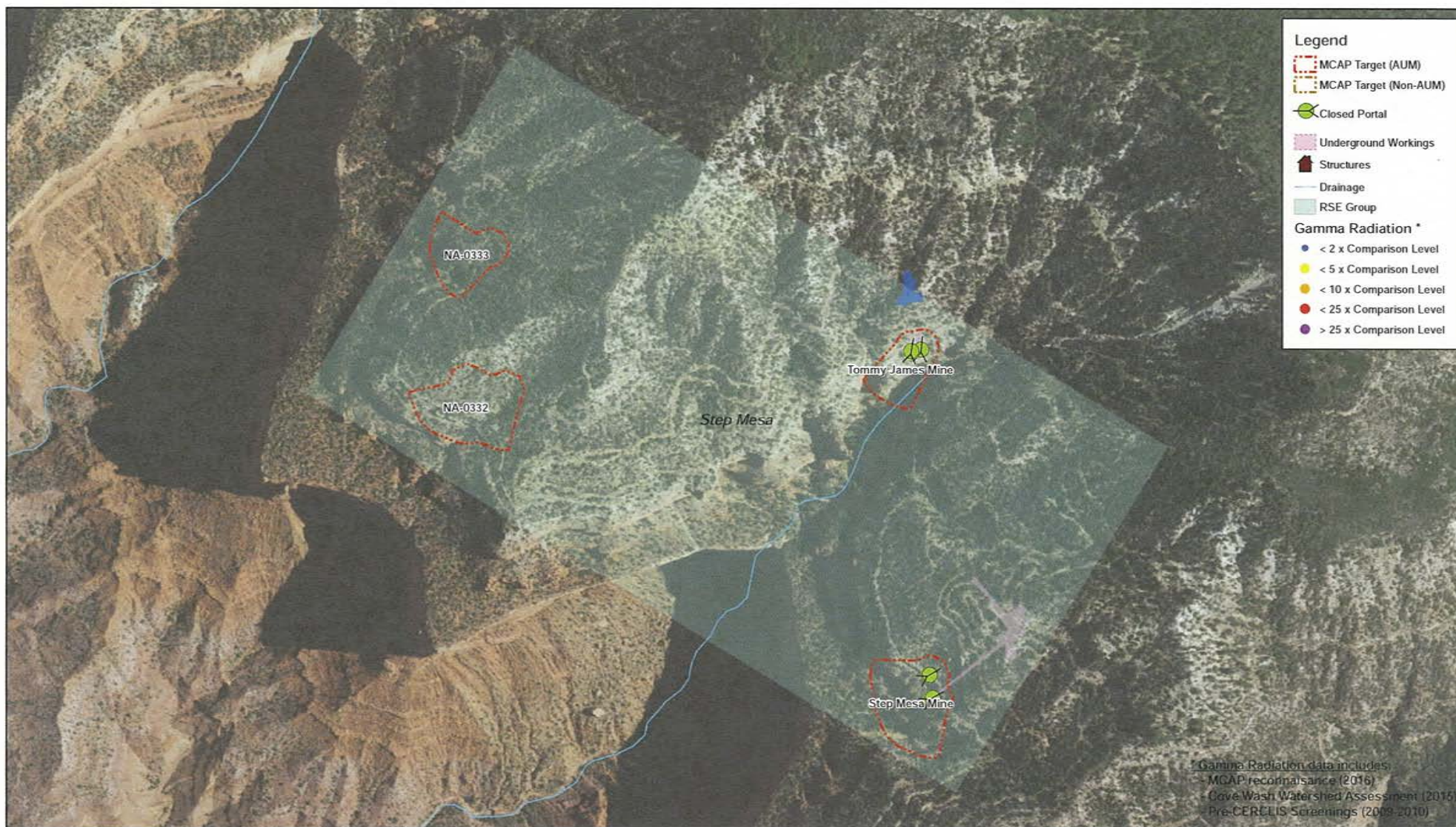


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**Figure 23 A**  
Step Mesa Removal Evaluation Group - Layout  
Mine Category Assessment Protocol  
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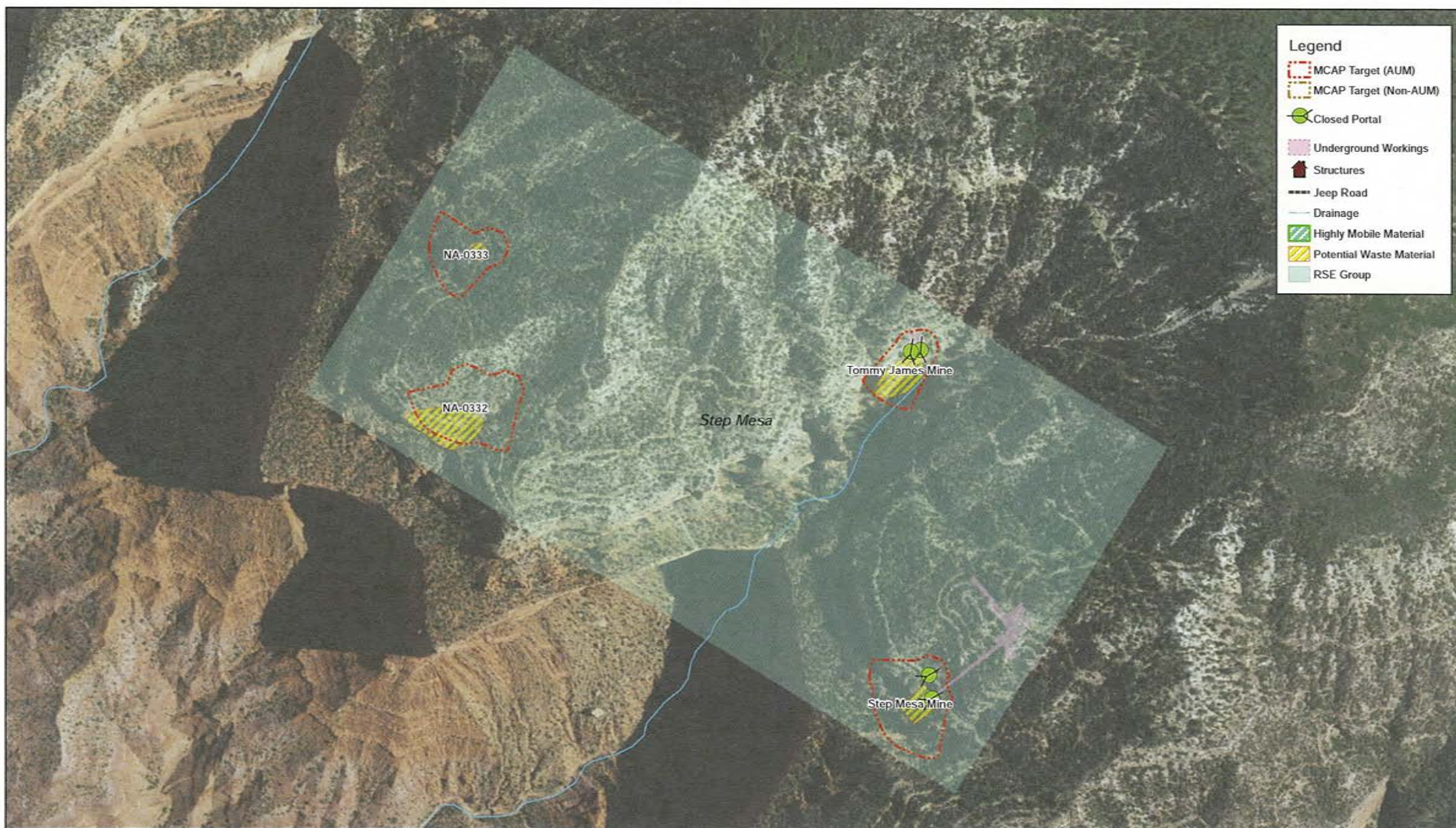


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**Figure 23 B**  
Step Mesa Removal Evaluation Group - Elevated Gamma Radiation  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ





- Legend
- MCAP Target (AUM)
  - MCAP Target (Non-AUM)
  - Closed Portal
  - Underground Workings
  - Structures
  - Jeep Road
  - Drainage
  - Highly Mobile Material
  - Potential Waste Material
  - RSE Group



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Figure 23 C  
Step Mesa Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ





**Figure 24 A**  
**Brodie Removal Evaluation Group - Layout**  
**Mine Category Assessment Protocol**  
*Apache County, Navajo Nation, AZ*



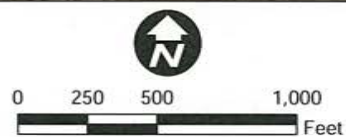
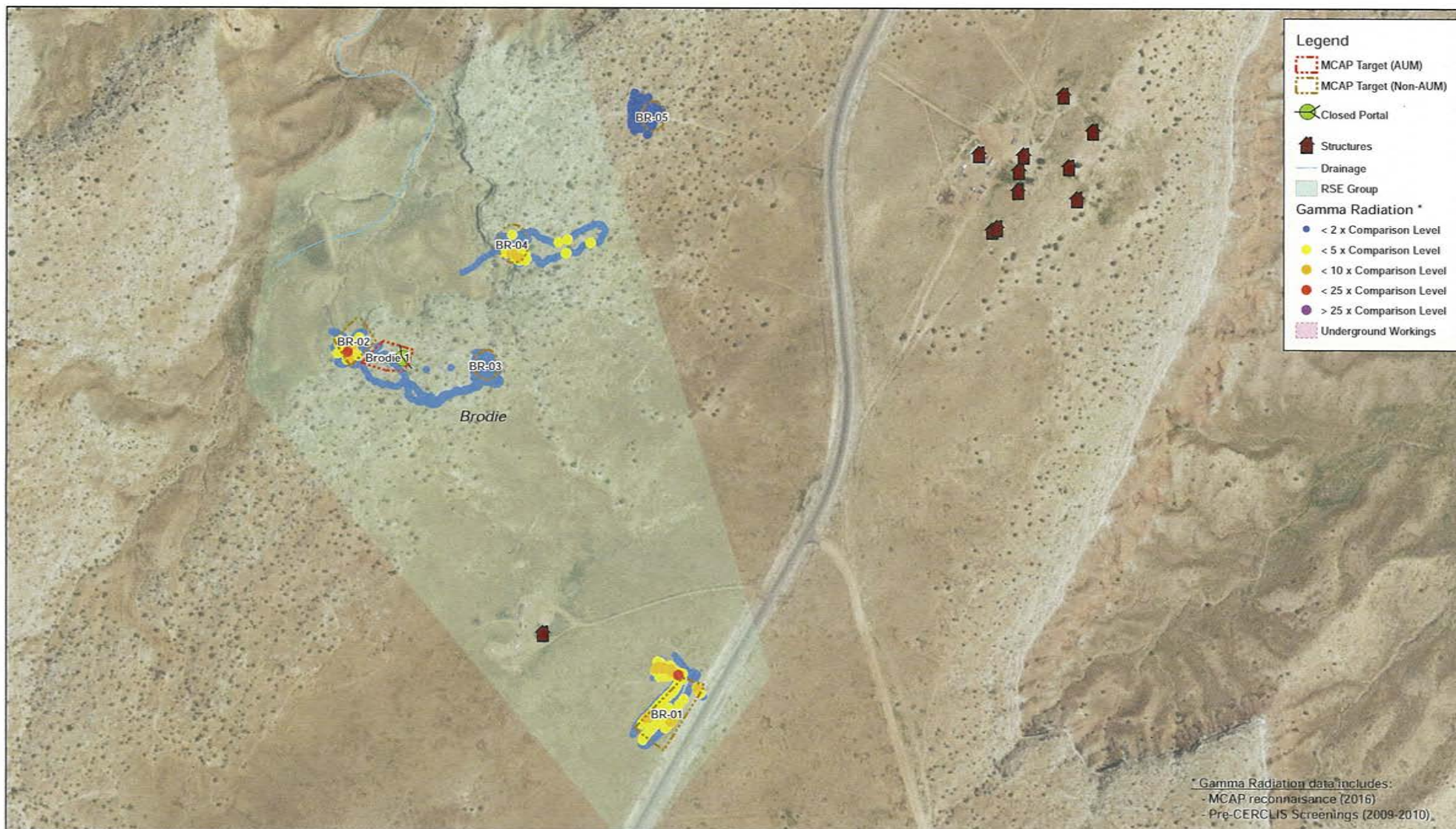
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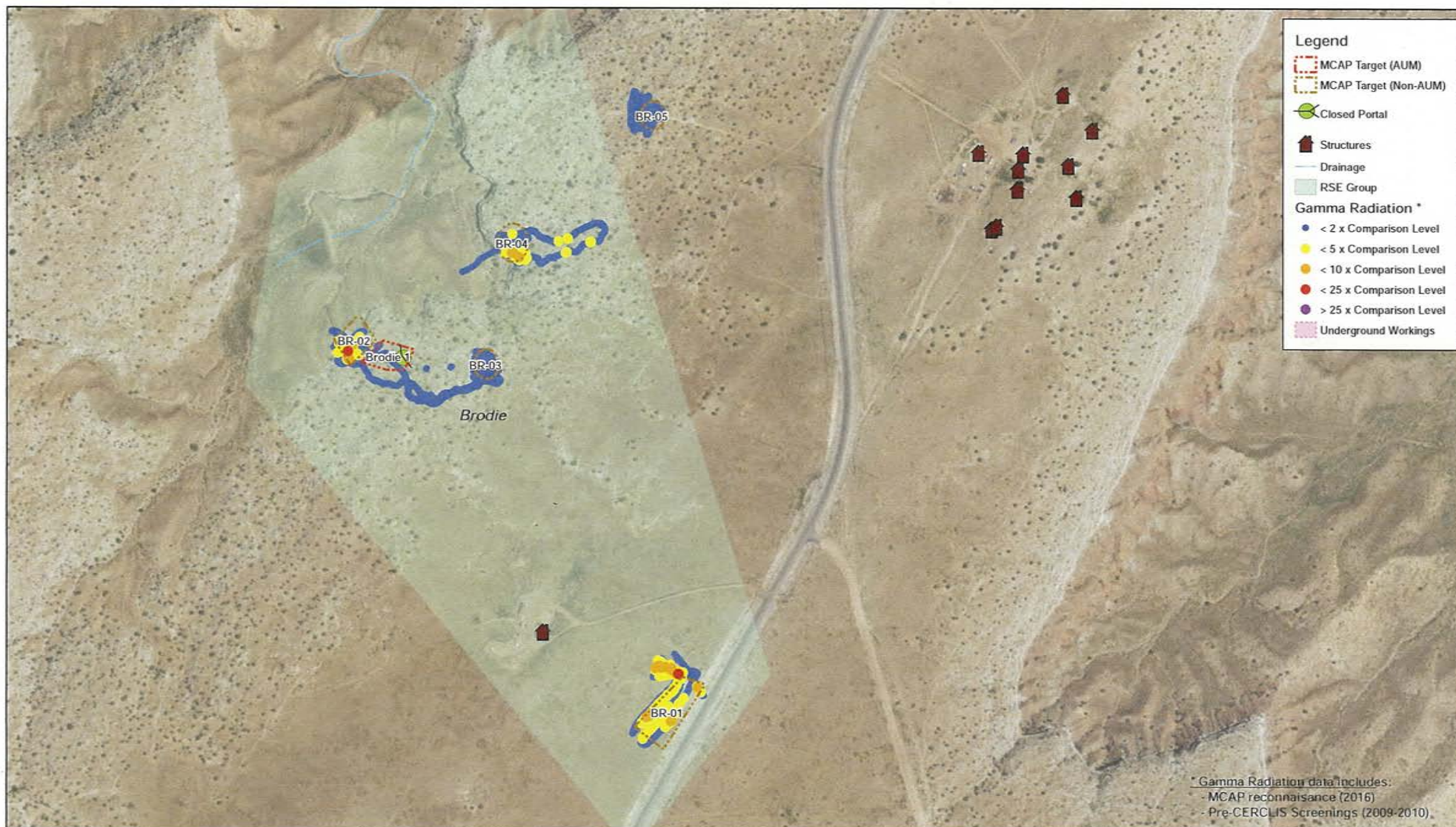
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**Figure 24 B**  
 Brodie Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ





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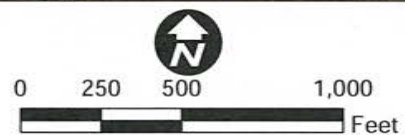
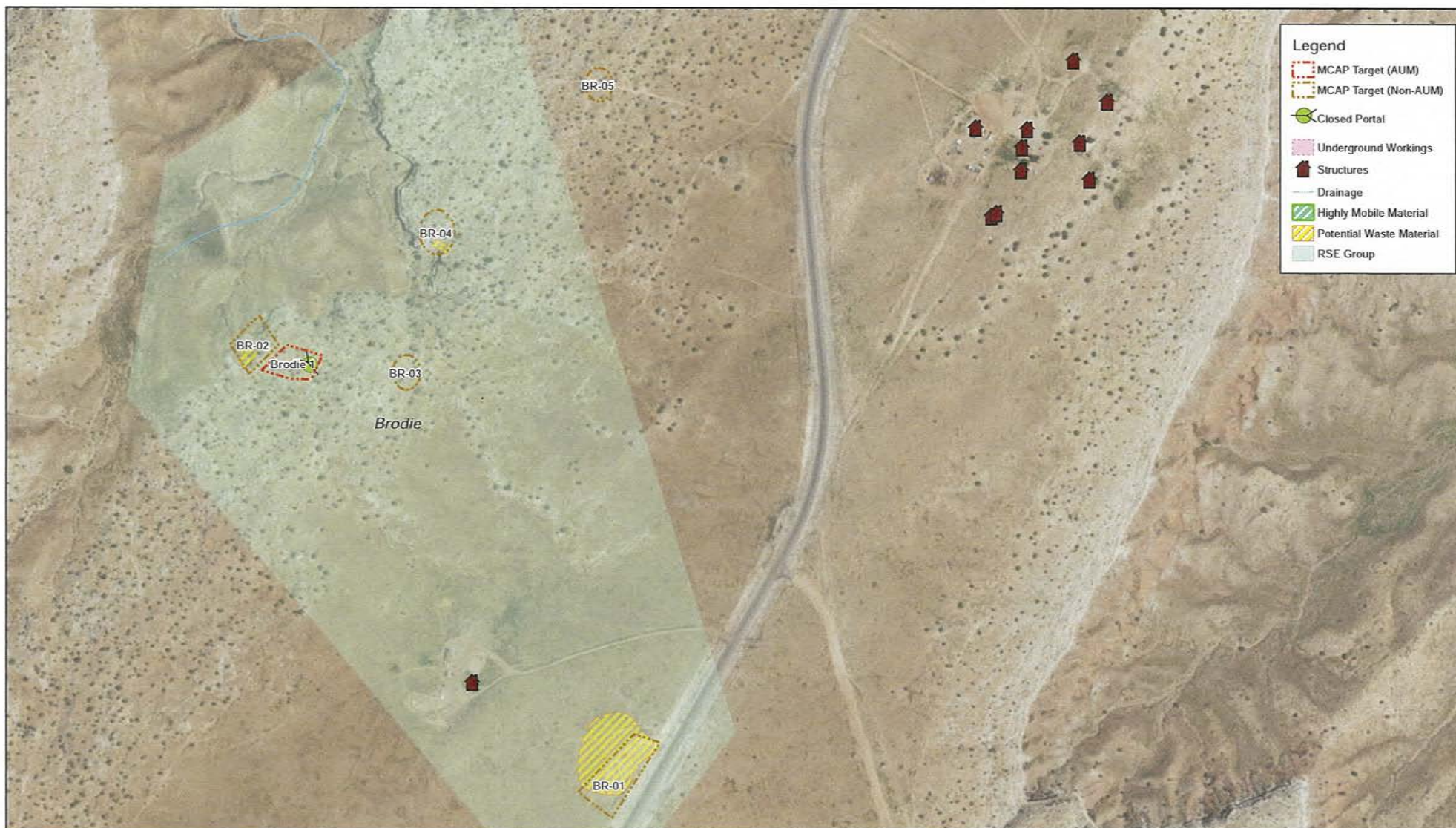


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**Figure 24 B**  
 Brodie Removal Evaluation Group - Elevated Gamma Radiation  
 Mine Category Assessment Protocol  
 Apache County, Navajo Nation, AZ





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Figure 24 C  
Brodie Removal Evaluation Group - Waste Material  
Mine Category Assessment Protocol  
Apache County, Navajo Nation, AZ



